GEOGRAPHY,
RESOURCES & INDUSTRIES

July, 1944

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EDISON ELECTRIC INSTITUTE BULLETIN

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PUBLISHED MONTHLY BY EDISON ELECTRIC INSTITUTE

THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

April, 1943 and 1944

SOURCE AND DISPOSAL OF ENERGY—MONTH OF APRIL

	1944	1943	%
GENERATION* (Net)			
By Fuel Burning Plants	11,323,524,000	10,470,311,000	+ 8.1
By Water Power Plants	7,294,283,000	6,759,821,000	+ 7.9
Total Generation	**18,617,807,000**	**17,230,132,000**	**+ 8.1**
Add—Net Imports over International Boundaries	132,821,000	140,033,000	− 5.2
Less—Company Use	136,988,000	141,689,000	− 3.3
Less—Energy Used by Producer	468,345,000	717,462,000	−34.7
Net Energy for Distribution	**18,145,295,000**	**16,511,014,000**	**+ 9.9**
Losses and Unaccounted for	1,848,843,000	1,741,634,000	+ 6.2
Sales to Ultimate Customers	**16,296,452,000**	**14,769,380,000**	**+10.3**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of April 30th			
Residential or Domestic	27,018,803	26,653,564	+ 1.4
Rural (Distinct Rural Rates)	1,110,172	1,072,391	.....
Commercial or Industrial:			
Small Light and Power	4,190,062	4,170,790	+ 0.6
Large Light and Power	149,282	144,003	
Other Customers	120,040	118,957	.....
Total Ultimate Customers	**32,588,359**	**32,159,705**	**+ 1.3**
KILOWATTHOUR SALES—During Month of April			
Residential or Domestic	2,591,996,000	2,318,974,000	+11.8
Rural (Distinct Rural Rates)	255,447,000	195,479,000	+30.7
Commercial or Industrial:			
Small Light and Power	2,413,433,000	2,269,495,000	+ 6.3
Large Light and Power	9,319,228,000	8,472,285,000	+10.0
Street and Highway Lighting	166,686,000	160,627,000	+ 3.8
Other Public Authorities	863,338,000	671,109,000	+28.6
Railways and Railroads:			
Street and Interurban Railways	380,675,000	383,728,000	− 0.8
Electrified Steam Railroads	221,799,000	213,076,000	+ 4.1
Interdepartmental	83,850,000	84,607,000	− 0.9
Total to Ultimate Customers	**16,296,452,000**	**14,769,380,000**	**+10.3**
Revenue from Ultimate Customers	**$270,205,400**	**$249,223,500**	**+ 8.4**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—For 12 months ended April 30th			
Kilowatthours per Customer	1,104	1,032	+ 7.0
Average Annual Bill	$39.30	$37.67	+ 4.3
Revenue per Kilowatthour	3.56¢	3.65¢	− 2.5

(*) By courtesy of the Federal Power Commission.

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EDISON ELECTRIC INSTITUTE BULLETIN

Volume 12 JULY, 1944 No. 7

Annual Meeting of the Institute

Constitution Is Amended—Governing Committees Reorganized and Enlarged

IN addition to an exceptionally good program of forward-looking, useful and inspiring addresses, perhaps the most important actions taken at the annual meeting of the Institute, held at the Waldorf-Astoria Hotel, New York, June 6-7, were the revision of the Constitution of EEI, and the adoption of a resolution providing for a special committee to study the possibilities of consolidating existing electric industry trade association groups into one organization.

The amended constitution, printed on the next page, provides for a Board of Directors, with a maximum membership of 45, and an Advisory Committee. These two groups replace the former Board of Trustees and Operating Committee and provide for broader representation of the industry, with responsibility for government and administration of the Institute centered in the Board of Directors. Members of the Board are elected at annual meetings, while membership in the Advisory Committee is appointive.

A complete list of the newly-elected Board of Directors, and the Advisory Committee appears on the back cover pages of this issue.

The resolution providing for investigation of the possibilities of consolidating the present trade organizations was introduced by Mr. C. L. Campbell, president, Connecticut Light & Power Company, and unanimously adopted. It provides for a committee representing the Edison Electric Institute to study the matter of consolidation and directs the president of EEI to invite the Association of Edison Illuminating Companies, the Council of Electric Operating Companies and the Advertising Committee to form similar committees, the whole, together with representatives of larger utilities not presently members of any of the organizations, to act as a joint committee for careful study and report on the whole subject.

The meeting was limited by war conditions to two days, with a morning and afternoon session each day. While attendance was likewise sharply limited by the war, something over 400 executives being present, the general feeling was that this meeting portended an even greater era of usefulness in association activities than has been possible in the past.

All the addresses made at the meeting will appear in the EEI BULLETIN, approximately half of them in this issue and the remainder in the August number. All of them deserve careful reading.

Speakers whose papers appear in this issue are: Messrs. C. W. Kellogg, Merrill E. Skinner, Hugh C. Thuerk, H. K. Breckenridge, Ben C. McCabe, G. V. Rork, Kinsey Robinson, R. C. Muir, R. E. Fisher, S. P. Vecker.

Speakers and titles of papers to appear in the August issue include: Messrs. A. C. Monteith, Modern Equipment Aids System Savings; Ralph Moody; S. M. Dean, Planning for Further Economies in Power System Costs; A. E. Silver, Higher Distribution Voltages for Post-war Loads; Donald D. Conn, Public Services—The Bulwark of Private Enterprise; Philip L. Warren, Depreciation Accounting Innovations from the Viewpoint of the Investor; H. O. Sprinkle, Where Do We Go From Here in Accident Prevention?; Philip Sporn, The Sixth Ingredient—The Heat Pump—The Importance of Its Development in Making the All-Electric Home a Reality.

OFFICERS OF THE INSTITUTE—1944-1945

C. W. KELLOGG, *President*

J. W. PARKER, *Vice-President*

H. B. BRYANS, *Vice-President*

H. S. BENNION, *Vice-President and Managing Director*

GILBERT W. CHAPMAN, *Treasurer*

MAE B. WOODS, *Secretary*

Prize awards announced at the meeting by P. S. Young, Chairman of the Prize Awards Committee, include the Reddy Kilowatt Award, sponsored by Ashton B. Collins and the Laura McCall Award, sponsored by *McCall's Magazine.*

The Puget Sound Power & Light Company, Seattle, Wash., was awarded first prize for its 1943 Report to Stockholders in the Reddy Kilowatt contest. The judges' citation read in part, "A fine example of presentation—summarizing the company's performance and portraying it in simple, yet comprehensive manner; and at the same time giving the stockholders a wealth of material. The 11-year score card is a unique method of citing the accomplishments of management."

Honorable Mention certificates were awarded to the Kansas Gas and Electric Co., Wichita, Kan., and the Duquesne Light Company, Pittsburgh, Pa.

First place in the Laura McCall award in home service activities was won by Union Electric Company of Missouri, $150 in war bonds to Miss Esther Lee Bride; second, Appalachian Electric Power Company, $100 bond to Mrs. Selma M. Andrews; third, Potomac Electric Power Company, $75 bond to Miss Mary E. Turner; fourth, Texas Power & Light Company, $50 bond to James H. Apperson; fifth, Central Vermont Public Service Company, $25 bond to Mrs. Lillian B. McGill.

In addition to the cash awards noted above the McCall prizes consist of an engraved plaque and four illuminated

parchments. The awards are based on reports of 2,000 words or less submitted by the entrants and covering these four classifications:

1. The planned 1943 War-time Program of the Home Service Department.

2. Activities to further electrical living through care and repair of electric household equipment; to further nutrition education, and other activities to maintain good will.

3. The actual progress made in accomplishment of these objectives during 1943.

4. Summary of accomplishments of the average Home Service worker in 1943 (this summary was arrived at by dividing the total accomplishment of the department in each activity by the average number of workers).

The combined ratings were designed to place large and small electrical utility Home Service Departments on an equal footing in competition.

Constitution of the Edison Electric Institute (as amended June 6, 1944)

Article I—Name

The name of this association shall be the Edison Electric Institute.

Article II—Objects

The objects of the Institute shall be:

1. The advancement in the public service of the art of producing, transmitting and distributing electricity and the promotion of scientific research in such field.

2. The ascertainment and making available to the members and the public of factual information, data and statistics relating to the electric industry.

3. To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor and employee.

Article III—Membership

Section 1. There shall be four classes of members:

A. Operating company members, being operating electrical corporations engaged in the generation, transmission or distribution of electricity to the public.

B. Holding company members, being corporations which by virtue of their ownership of securities are interested in advancing the business of operating electrical companies in relation to the sale of electricity to the ultimate consumer.

The term "Company Members" as used in this Constitution shall apply equally to operating and holding company members unless otherwise specified.

C. Canadian affiliate members shall consist of the company members of the Canadian Electrical Association. The Canadian Electrical Association as an association shall pay the dues of the Canadian affiliate members in such aggregate amount as from time to time may be determined by the Board of Directors.

D. Honorary members.

Section 2. The President annually, subject to the approval of the Board of Directors, shall appoint a Membership Committee consisting of five individuals chosen from officers or employees of company members. Applications for company membership shall be referred to this Committee, whose decision upon such applications when approved by the Board of Directors shall be final. Any company becoming a member of the Institute shall waive all rights to any assets of the Institute upon the termination of membership therein. Each applicant company shall furnish to the Membership Committee such information with reference to its organization, properties, financial structure, affiliations and business practices as may be required by the Membership Committee from time to time. Company members from time to time shall answer such questionnaires relative to their organization, financing methods of operation and business practices as may be requested by resolution of the Board of Directors.

Section 3. Officers and such employees of company members as are designated by an executive officer of a company member shall be eligible to attend conventions and serve on committees of the Institute.

Section 4. Honorary members shall

Resolution Providing for Special Committee to Study Possibilities of Consolidating Electric Industry Trade Organizations

(Adopted June 6, 1944, at EEI Annual Meeting)

WHEREAS, there are now four trade organizations connected with the electric industry, namely, the Edison Electric Institute, Association of Edison Illuminating Companies, Council of Electric Operating Companies and the Advertising Committee; and

WHEREAS, some companies are members of all of the above organizations, others are members of only some of the organizations, and still other large operating companies may not be members of the above organizations; and

WHEREAS, there may be certain advantages of economy, efficiency and strength in combining all four organizations into one; and

WHEREAS, there are likely to arise in the near future certain activities and questions which can be properly handled only by an organization and which none of the present organizations undertake to handle and which will need to be handled with activity, force, and intelligence; therefore, be it,

RESOLVED, that the President of the Institute appoint a committee from members of the Institute consisting of not less than three and not more than five to study into this matter; and be it further

RESOLVED; that the President request the Association of Edison Illuminating Companies, the Council of Electric Operating Companies and the Advertising Committee to appoint similar committees to confer with the committee from the Institute on this subject; and be it further

RESOLVED, that said joint committee, after it has been organized, invite representatives from the larger operating companies who may not be represented on said committee to become a part of said joint committee; and be it further

RESOLVED, that said joint committee be requested to study carefully into this whole subject and to make a report to their respective organizations. The scope of the committee's report to be as broad as the committee may conclude is desirable to make it; and be it further

RESOLVED, that when the report is ready, it be presented to the members of the Institute for such further action as may be deemed wise.

be those who on account of their standing or qualifications in the opinion of the Board of Directors and by its election are entitled to such honor.

SECTION 5. Any member may resign from membership at any time. Service upon any officer of the Institute of written notice of resignation shall thereupon and thereby terminate membership, regardless of the date of acceptance of same and regardless of any obligations of membership unfulfilled upon such date of service.

ARTICLE IV—DUES

SECTION 1. The annual dues of all classes of members shall be paid to the Treasurer. They shall be in such amount and in accordance with such terms of collection as shall be fixed annually by the Board of Directors with the advice of the Advisory Committee.

ARTICLE V—BOARD OF DIRECTORS AND COMMITTEES

SECTION 1. The affairs of the Institute shall be governed by a Board of not less than 15 nor more than 45 Directors, consisting of officers or employees of company members, to be elected at the Annual Convention of the Institute. The number of members of the Board of Directors within the limits above specified may be fixed or changed by vote of the company members at any Annual Convention. The members of the Board of Directors shall be divided into three classes to the end that the terms of approximately one-third of the members shall expire at the close of the Annual Convention each year. The term for which members of the Board of Directors shall normally be elected shall be three years, but election for terms of one or two years shall be permissible to preserve the classification above specified. Members shall not be eligible for re-election to the Board of Directors until the expiration of one year after the expiration of their respective terms of office. In applying this disqualification, however, any election for a shorter term than three years shall be disregarded. Upon any vacancy in the Board of Directors occurring by reason of resignation, death or other disability, such vacancy may be filled for the remainder of the term by vote of a majority of the remaining Directors. One-third of the Board of Directors, but not less than nine, shall constitute a quorum for the transaction of business.

SECTION 2. The Board of Directors, after each annual election of Directors, shall designate from its own membership an Executive Committee of nine, three from each of the classes. The executive Committee may exercise all the powers of the Board of Directors between meetings of the Board. The President shall preside at meetings of the Executive Committee.

SECTION 3. There shall be appointed by the President annually, with the approval of the Board of Directors an Advisory Committee consisting of the President, the Vice-Presidents and not exceeding 30 senior executive officers of company members. The President shall serve as Chairman of this Committee. The duty of this Committee will be to meet, upon the call of the President, with the officers and available members of the Board of Directors of the Institute for the exchange of information and counsel on matters broadly affecting the whole electric utility industry. The duties of the Committee shall be advisory only and not in any way directive to the Board of Directors. The Board of Directors shall from time to time determine what other committees shall be created and define the scope of their authority. The members of such committees shall be appointed by the President. Members of technical committees may, upon approval of the Executive Committee, be selected from the personnel of non-member organizations.

SECTION 4. The Directors, after the election of Directors at the Annual Convention, shall elect for a term of one year all officers and shall have power to fill vacancies caused by death, resignation, disability or otherwise, or to remove any officer for good cause.

SECTION 5. The President, subject to the approval of the Board of Directors, prior to the Annual Convention, shall designate a nominating committee consisting of five officers or employees of company members to make nominations at the convention, to fill vacancies in the Board of Directors occurring by reason of the expiration of term.

ARTICLE VI—OFFICERS

SECTION 1. The officers of the Institute shall be a President, one or more Vice-Presidents, a Managing Director, a Treasurer and a Secretary, who shall be officers or employees of company members or full time employees of the Institute but need not be members of the Board of Directors.

SECTION 2. The President shall preside at all meetings of the Institute and perform such other duties as may be provided for by the Board of Directors.

SECTION 3. The Managing Director, subject to such limitations as may be imposed by the Board of Directors, shall exercise general supervision and control of the routine activities of the Institute and shall have supervision over the employees including their employment and discharge.

SECTION 4. The Treasurer shall perform the duties assigned to him by the Board of Directors. Subject to its approval he shall furnish a surety bond in such sum and with such terms as the Board of Directors may prescribe from time to time.

SECTION 5. The Secretary shall perform such duties as shall be assigned by the Board of Directors.

ARTICLE VII—ANNUAL CONVENTION

SECTION 1. Annual convention of the Institute shall be held in June of each year in such place and on such dates as the Board of Directors may designate, provided however that the Board upon notice to all members on or before May 15th of any year may fix any other date for said annual convention.

SECTION 2. Twenty company members shall constitute a quorum for the transaction of business and the vote of a majority of a quorum shall control.

SECTION 3. At the annual convention there shall be elected Directors to fill vacancies caused by the expiration of term.

SECTION 4. The right to vote on all matters shall be solely by company members. Voting by proxy shall not be allowed.

ARTICLE VIII—PERMANENT OFFICE

SECTION 1. The permanent office of the Institute shall be located in the City of New York.

ARTICLE IX—SPECIAL MEETINGS

SECTION 1. Special meetings of the Institute may be held upon the authority of the Board of Directors at any time, upon 15 days' notice to every company member, stating the date and place of such meeting and the business to be transacted.

ARTICLE X—AMENDMENTS

SECTION 1. Amendments to the Constitution may be adopted from time to time upon the recommendation of the Board of Directors. A two-thirds vote of the company members present at either a special or annual meeting of the Institute shall be necessary for the adoption of any amendment.

The President's Address

By C. W. Kellogg
President, Edison Electric Institute

Address before the Annual Meeting of the Edison Electric Institute, New York, June 6, 1944

As we assemble for our twelfth Annual Meeting, our nation is plunging into the greatest military effort of all time. The sinews for that effort have been built up over the past years and all signs indicate that the industrial production needed to support the attack of our armed forces has now reached a peak. The scale of government expenditures for war, which has shown a monthly average of about 7.33 billion dollars for the last six months, is beginning to flatten off. Electric energy output in recent months has shown continuing decreases in growth over the corresponding week of last year. We are now, therefore, in an advantageous position to survey the whole progress of the war powerwise.

The Promise

When we met in Atlantic City, four years ago this week, the German armies had just swept over Holland and Belgium and large parts of France, and few doubted that we were in for a world war. The major part of my annual report on that occasion was devoted to an appraisal of the ability of the electric utility industry to provide the power that would be required for the great industrial war effort we all then clearly visualized. At that time, we expressed confidence in our ability to care for the power situation, basing that confidence on the reserves of generating capacity available, the ability to build generating plants as fast as new war industrial plants, the higher load factors which war industry would produce, the beneficial effect of the extensive interconnections of systems that had been built up over the years, and the resourcefulness of our trained organizations. How has the promise been performed?

The Performance

In the four years now ending, the nation's annual output of electricity has grown from 137 to 230 billion kwhr, or 68 per cent. The load factor (for 12 months ending May 31) has grown from 53.3 to 64.4 per cent. The generating capacity has grown from 40.65 to 49.5 million kw, or 22 per cent and the maximum demands on our systems from 29.3 to 40.75 million kw, or 39 per cent. A simple calculation indicates that the sources of the great increase in energy of the last four years were: 42 per cent from higher load factor and 58 per cent from increased demand. While the process has involved drawing to the extent of 2.6 million kw on the reserves of generating capacity, those reserves today still aggregate 8¾ million kw, 21.5 per cent in excess of the highest peak load of the current year, and throughout the four years there has always been a sufficient supply of electricity, as to time, place and magnitude, for all war purposes. The performance has therefore been adequate in every respect.

Costs Up

Inevitably, these huge changes in physical development have been accompanied by corresponding financial burdens. In the four years ending with 1943 the taxes paid by our industry have increased $336,000,000, or 95 per cent. The average hourly earnings of our employees have gone from 86 cents to $1.09 (27 per cent increase) during the four war years, a cost partly offset by a reduction from 239,000 to 204,000 (or 17 per cent) in the number of employees.

Rates Down

While these changes in cost were occurring, the average gross amount received for a kilowatthour sold went down steadily throughout the war period. In the last pre-war year (1939) the average unit price at which electric energy was sold countrywide was 30 per cent above the average figure of 1.66 per kwhr for 1943. This marked decrease in average charge might be supposed to have resulted from the greater preponderance of power load during the war; however, the average unit receipts went down throughout the period in all three main classifications of electricity—residential, commercial and industrial.

Taxes

The tax problem of the utilities is principally a Federal tax matter. It has arisen partly because the Federal revenue acts have failed to take into account the two basic ways in which we differ from the average industry: (1) Our rates are regulated by government, and (2) since we require seven times as much in fixed plant investment for a given volume of business as the average industrial concern, apparent excess profits are not true excess profits unless reduced by the charges on the additional plant required to produce them. The first of these differences the Federal Government claims to have equalized by its War Price Control; the second, Congress evidently tried to cover by the allowance, in Section 722 of the 1942 Act, of the right to deduct charges on additional facilities needed to produce the larger wartime revenues. If this was their intention, they took it away in the next breath by the provision in the same section that such additional facilities could count only if they were planned before the end of 1939.

In addition, there are other changes in the tax laws that consistency and fairness would call for:

(1) It is very much to be hoped that a practical way may be found, and one which the Congress will adopt, to correct for the continuing discrimination, in the levying of corporate income taxes, between the slow-turnover, high investment companies and those in which the reverse is the case. (2) The double taxation of dividends, both against the stockholder who receives them and the corporation that earns them, is a long-standing evil, acting as a brake on corporate activity which will be a continuing deterrent to business development in the post-war period. (3) Finally, the complete exemption from Federal taxes enjoyed by our government-owned competitors, represents a tax burden transferred from one relatively small group of citizens to the shoulders of our 32½ million customers throughout the nation.

These inequalities will not be cured by the cessation of the war, since our huge national debt will make for relatively high Federal taxes during an indefinite future.

War Effect on Earnings

The way the electric utilities have met the deadly combination of lower average earnings from what they sold and higher prices for what they bought is one more demonstration of the great

inherent flexibility of the business, arising from the breadth and infinite diversity of the demands for its service. This basic quailty is the despair of our enemies and the satisfaction on the whole of our security holders. A glance at the financial results of the four war years is most instructive. If we take the division of the dollar received from our customers, we find that the proportionate part required for operation, maintenance and depreciation has varied hardly at all during the four war years. (The average annual deviation from the mean was less than 1 per cent.) The proportionate part left after taxes has, of course, decreased, but the actual amount in dollars left for paying a return to the holders of our bonds and stocks has yielded only gradually to the terrific economic forces incident to financing the cost of the war. Gross corporate income, representing the amount available for return on all securities in 1943 was $46,000,000 (or 5¼ per cent) below the corresponding figure in 1939. The balance for common stock was off $27,000,000 or 6 2/3 per cent in the same period. Both of these decreases are the measure of the failure of the utilities (heretofore mentioned) to obtain the tax relief to which their special characteristics fairly entitle them. The disparity is likely to be still greater in 1944 due to the increase in the excess profits tax rate.

Painful as present excess profits taxes are, they must be recognized as a cushion against the shock of earnings likely to result from the inevitable future curtailment in war industrial production. In our confidence in the justice of our claim that the Federal tax laws do not allow properly for the special conditions surrounding our business, we must not lose sight of the fact that our great taxes are to finance a great war and that the manufacturing companies of the country as a class have suffered a decrease of 14 per cent in net earnings from 1940 to 1943, compared to 7½ per cent decrease for the electric utilities in the same period.

As Others See Us

It is always instructive to note how our industry looks to competent observers on the outside. For this purpose, the investment policy of the life insurance companies, as disclosed by the make-up of their portfolios, represents a highly expert opinion. During the decade from 1933 to 1943, wherein the total assets of 49 legal reserve life insurance companies grew from 19 to 34 billion dollars (or about 76 per cent), their investment in all public utility bonds (not, of course, all electric light and power) grew 193 per cent to a total of $4,872,000,000. This was even in the face of the needs of war financing which, during the decade, raised the proportion of their assets represented by U. S. Government Bonds from 4 to 34 per cent. This expert endorsement of the soundness of utility bonds is so broad in scope as to be most convincing.

Municipal Ownership Elections

Another available form of external appraisal of our industry is that by the people through the elections which occur from time to time on the subject of municipal ownership of electric utilities. The present national administration, with its frankly socialistic trend, stirred up at first a lot of interest in the subject of municipal ownership. During its first three years, voters, representing population averaging 4,662,000 per annum, went to the polls and voted (on the average) 66 per cent for municipal ownership. During the three years ending 1943, however, not only was the average population affected by such elections less than one-fifth as large, but the proportion of this smaller number favoring municipal ownership had fallen to less than one-tenth of what it was in the earlier triennium. That is, 1/59 as many people voted for municipal ownership in the last three years as in an equal period eight years earlier.

This drastic change in public sentiment on this basic problem was in the face of the obvious large saving in cost which can be obtained from municipal operation through the tax exemption such enterprises enjoy—a saving whose magnitude has greatly increased in the last two years. Possibly the voters feel instinctively that this tax exemption for municipal operation is so manifestly unfair that it cannot long endure.

Depreciation

The past year has brought important developments in the subject of Depreciation Accounting and Practice. For nearly five years a Committee on Depreciation of the National Association of Railroad and Utilities Commissioners has been working on a report. Throughout this period a parallel study has been carried on by a joint accounting committee of the Institute and of the American Gas Association. Last September a form of report by the NARUC committee was presented to the annual convention of the association and ordered printed. This report comes out for straight-line depreciation, based on theoretical age-life tables, and claims that depreciation reserves so computed should be retroactively applied and should be deducted from plant account to arrive at a rate base.

One or more of these tenets are refuted by committees of the completely independent American Institute of Accountants and of the equally detached American Society of Civil Engineers, and by studies of the record of actual experience of typical electric light and power companies over long periods of years carried on by our own Committee on Depreciation Principles. They are also contrary to the established practice of many State regulatory bodies over long periods.

The depreciation program as set forth by the NARUC Depreciation Committee would serve to weaken the position of investors in electric utility securities and thereby to make the acquisition of such securities by public bodies easier and cheaper. The studies of our committees have been aimed to develop and bring out the facts so that depreciation can be handled on a factual rather than a theoretical basis and so that depreciation accounting will be recognized simply as the process of recording experience and judgment.

Engineering

Furnishing electric service is essentially an engineering problem. It is only after the engineer has done his work that the commercial forces can take hold. In the development period of the electric utility industry our engineers performed so effectively that there came to be a feeling that the commercial aspects of our business are now predominant and that the problems needing solution were not engineering ones. Developments in recent years have, however, tended to offset this notion. In that close relationship with economics, which is the very essence of good engineering and of good commercial development, we are on the threshold of fur-their important developments. Sales promotion has been and will continue to be effective in reducing unit costs to our customers, but only through keeping in the forefront of engineering progress can our basic costs be reduced or held down to keep our industry in a competitive position with respect to the services offered by other industries.

Ours has always been inherently an industry with relatively high fixed plant

investment per unit of output. So, while engineering is naturally concerned with the most efficient production of electricity, it can be equally effective when it reduces our fixed plant investment. Out of this war are coming new developments in metals and insulating materials which engineers will take advantage of to hold down the cost of power stations and the cost of transmitting power. One development we will hear discussed in this meeting is the prospect of extending distribution lines at higher voltages and in another paper we will hear a discussion of the possibilities of building substations for less money. Other engineering questions will also be covered in the papers that will be presented which tend to prove that the engineering part of our job is by no means finished and that we cannot yet afford to let well enough alone.

Standardization

Progress is being made in utilizing the possibilities of repetitive manufacture to reduce investment costs in the fields of steam turbine design, power transformers, switchgear and distribution transformers. It is important that these possibilities of price reduction should be fully realized, as otherwise the gain might not be sufficient to offset that loss of freedom in design which is a danger constantly present in all standardization practice.

Production Plant

The potentialities of the gas turbine are being closely followed. Recent studies indicate that no gain in operating efficiency, compared to large steam turbines, can be obtained by gas turbines with temperatures below about 1100° F. So that the problem of higher efficiencies is essentially a metallurgical one of finding materials which will hold their strength when operating at high temperatures. In connection with existing high pressure steam installations, the Institute is collaborating with the Association of Edison Illuminating Companies in research on graphitization of carbon-moly steam piping. This is making progress, but another year's work is indicated by the results so far.

Commercial Work

The continued growth throughout the war in the use of electric energy in home and office, in spite of blackout and dimout regulations and the cooperation in the Government conservation program, has demonstrated how great is the public need for electric service. This need, plus the inability to manufacture new equipment due to restrictions on the use of raw materials, has produced great activity in the maintenance of appliances and in activating of formerly idle equipment.

Looking ahead to peacetime and the availability of equipment, we may expect all-time sales records through the replacement of overworked electrical servants. There should also be great demand arising from the electrification of several hundred thousand new homes that will be constructed each year. New developments in heating and cooling of the home, in refrigeration and food storage, are but reminders of the coming expansion of electric services. In the commercial classification of our business, higher levels of illumination, commercial cooking expansion and air conditioning add to the possibilities of development. In the power field, many new uses of electricity have been developed during the war for saving time and cost in manufacture, notably in electronics and heat applications to industrial processes.

All these considerations have led to the general belief that the end, or even the decrease, of hostilities will bring on a need for commercial activity by the utilities never before equalled. This was the theme of the Institute's Commercial Conference in Chicago in April, which evidenced more interest than any similar past conference in our history. The diminution of the forces in our commercial departments incident to the war, contrasted with the increased promotion tempo that will soon be needed, presents a problem not only of re-employment but also of restraining to which our companies are very much alive.

Power Available

The trend of basic economic factors seems to indicate that we are already past the peak and trending downwards with respect to war activities. The dates of some such peaks show:

Construction Activity: August, 1942; employment in all non-agricultural establishments: December, 1942; Wholesale Commodity Prices and Cost of Living Index: May, 1943; Industrial Production: November, 1943; and National Income Payments: February, 1944.

The relative magnitude of civilian compared to war activities is now much smaller than it was in the last war. The total Industrial Production Index at the end of 1943 was three times the civilian total and was twice as large as the highest civilian level in our nation's history. The record of the last 10 years shows a substantially constant ratio between the Industrial Production Index and total electric energy output. Even if, therefore, we visualize obtaining after the war the highest level of civilian industrial production the country has ever enjoyed, the decrease in war production should leave large amounts of electric energy for sale.

Progress of the Institute

Since the beginning of last year there has been an increase in Institute membership of about 15 per cent. The Institute now represents about two-thirds of the gross earnings of the electric light and power companies of the country. This gratifying increase in appreciation of the value of what the Institute can contribute to the industry has been strikingly confirmed this year by keen interest displayed at the annual conferences this spring of each of the three main groups — Commercial, Accounting and Engineering.

Amendments to the Constitution

During the course of this annual meeting you will be asked to pass on amendments to the Constitution. These have been approved by the Board of Trustees in response to comments from Institute members. In general, the changes provide for a single governing body, the Board of Directors, with the Board of Trustees replaced by an Advisory Committee which can give the industry the benefit of their experience and judgment on matters of broad interest. A provision for non-eligibility of Directors until one year after the expiration of their respective terms is designed to bring constantly new minds into the operation of the Institute; but it must be remembered that many effectively useful men will be temporarily lost in the process.

When we met four years ago, though technically our nation was then at peace, our thoughts were projected into future preparation for war. Today, although we are in the midst of the greatest war of all time, our forward outlook is toward peace and the problems it will bring. The Institute has planning committees at work looking at some aspects of this problem and we will hear some discussion of their proceedings. The importance of their work, of course, depends on the help and stimulation they can give to the companies. I am pleased to report that a large percentage of utility companies have organized some form of post-war planning committees or delegated that responsibility to one or more

(*Continued on page 226*)

Getting Ready for Postwar Business

By Merrill E. Skinner

Chairman, Commercial Planning Committee, Edison Electric Institute

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 6, 1944

DUE to the considerable interval of time involved in the design and construction of major power facilities, long term planning has always been a necessary part of electric utility operations. At the present moment, all planning is complicated by the impact of the war on our business economy, and by the uncertainties which confuse the picture and make it difficult to see clearly what the future will hold.

The business environment in which we shall find ourselves after the war is the most important single factor to be considered in formulating any long range plans. In turn, the most significant influences which will affect the postwar business environment for electric utilities might be listed as

a) Legislation and regulation
b) Taxation
c) The availability and price of money for new construction
d) The index of industrial activity

In discussions of postwar planning, we frequently encounter the statement that a *favorable* business environment *is being assumed*. Regardless of the incidence of the foregoing factors on business in general, can we take for granted that there will be a favorable business environment for the electric utility companies? Sooner or later the American people must decide whether the electric utility business is to be owned and operated by government instrumentalities or whether the present mixed situation of part under government ownership and operation and part under ownership by individual investors and operation by business management is to be maintained. The question before the American Public is simply this, "What degree of public ownership can there be, before the political party in power (whichever that may be) attains sufficient control of votes to perpetuate its control and thus establish national or state socialism?" When the public decides this question it should be with open eyes and a full comprehension of the significance of its decision. We who are employed in this great industry can sit on the side lines as spectators to this struggle of political ideologies, or we can actively participate in the debates which will eventually determine the outcome. As long as the present mixed situation exists and until the issues are finally determined by the American public, it seems to me a duty rests upon us in behalf of the investors and owners of the electric utility industry to urge that both types of ownership operate under the same rules. If present discrimination continues, it may eventually accomplish the socialization of the industry without public realization of what is happening.

This basic question transcends all others as an influence on planning our future course of action. It is, obviously, beyond the scope of the Commercial Planning Committee which I represent on this program. However, the existence of this question and its important influence on any planning work to be undertaken was recognized at the first meeting of our committee and we felt that its importance should be forcefully called to the attention of the Executive Planning Committee, of which Mr. Thuerk is chairman.

Our Committee has served as a reviewing and sifting agency. We have reviewed past practice with respect to the commercial activities of member companies and with respect to joint commercial programs undertaken nationally through the EEI or otherwise in cooperation with the electrical manufacturers. We have not undertaken specific investigations ourselves but wherever it was the consensus that study and consideration was required, we have referred the matter to existing EEI committees, or have suggested the formation of special committees to undertake the assignment.

This review has been comprehensive and we have tried to consider every factor which has an influence on the commercial development of the electric utility business. Time does not permit and it would only bore you if I undertook a comprehensive review of our discussions. I have selected a few of the more important subjects upon which I would like to comment briefly.

Postwar Load and Capacity Ratios

The starting point in any commercial planning should be a consideration of the probable relation between load and capacity which might be expected in postwar years. Such a study will determine whether load building activities should be approached on the basis of an overloaded or underloaded supply. Somehow an impression has been created in the minds of many manufacturers and others that the cessation of war production would leave the utility companies with a tremendous amount of unsold capacity, and that more or less desperate sales techniques would have to be employed to quickly load up this surplus capacity. An inventory of the situation among a number of representative utility companies failed to confirm any such conclusion and the committee felt that a study of the situation nationally should be undertaken and the results publicized in order to give the trade press and the electrical manufacturers a clear picture of the probable postwar situation. Through the excellent statistical information available at EEI headquarters, it was possible to collect these data quickly.

The results of this study may be briefly summarized as follows:

"In regard to the generating capacity of the investor owned companies, it may be concluded that, large as the probable excess may appear in contrast with the heavy loads of 1943, indications point towards a balance between capacity and use comparable to that existing in the average of the years 1936-7-8 which are becoming more and more clear as representing a reasonable approximation of 'normal' of the American business structure. . . . For the publicly owned plants, however, the picture is different . . . it seems improbable that developments utilizing large quantities of aluminum or other products consuming great amounts of power in their manufacture can be effected rapidly enough to avoid a few years of over-capacity in some localities."*

Many of you will recall that Mr. Kellogg, in his address before the recent Commercial Conference, summarized the situation and that his summary has since been published in the EEI BULLETIN.** In addition to that, the results of

*W. M. Carpenter, in March, 1944, E.E.I. BULLETIN.
**May, 1944, issue.

the survey in greater detail are being distributed to member companies.

Trade Association Setup

In studying the program of the Postwar Planning Committee of other trade groups, our committee was impressed by the contrast between their trade association setups and that of the electric utility industry. While our industry has greatly benefited from the promotional activities of the great electrical manufacturing companies, which are not paralleled in the other fields, the other groups have substantially overcome this handicap through the creation of a single, unified, closely knit trade association which includes all elements of the industry—equipment manufacturers as well as utilities.

We in the commercial group, feel that still closer cooperation between electrical manufacturers and utilities in connection with load development programs would be desirable and that steps should be taken to strengthen the bonds of common interest between the manufacturers of equipment and the utilities which supply the service to operate it. Due to historical development or to divergent views as to the need for undertaking some specific activity, we now have a number of associations representing different overlapping segments of the electric utility industry which tend to give an impression of lack of unity at a time when the industry is facing most critical problems.

While this situation is of special interest to commercial men, it is, again, a problem beyond the scope of our Commercial Planning Committee and this metter is being brought to the attention of Mr. Thuerk's Executive Planning Committee in the hope that some formula may be found which will improve our postwar trade association setup.

National Cooperative Programs

Beginning with the Home Lighting Essay Contest in 1924, the electrical industry has carried on a series of national cooperative promotional activities of which the Better Light Better Sight Bureau is probably the best known and most widely accepted. Only three of these programs have survived the impact of the war. In the past, there was a tendency to create a new national group or organization to cover each specific activity as it was suggested, with little coordination between them.

All of these programs have been aimed at the residential market because this market is the one which is peculiarly susceptible to development through cooperative national advertising and stimulation.

Recently, a plan was suggested which would accomplish improved coordination in the development of the residential market for electricity and for electrical equipment. An outline of this suggestion was presented at the recent Commercial Conference of the EEI held in Chicago early in April, and it has been submitted to the National Electrical Manufacturers Association and other manufacturer groups. Interest has been widespread and, as a result, a joint committee of utility and manufacturer commercial executives has been set up to review the suggestion and explore the possibilities of joint cooperative action in the development of the residential market by a unified yet flexible program to promote Electrical Living. The electrical appliance and equipment manufacturer is interested in the overall national market for his products, whereas the individual utility company is interested primarily in its local operating area. This difference in point of view has been recognized in past undertakings of this character but the members of the Commercial Planning Committee feel generally that the individual utilities, acting through their trade associations, should enter such national promotional activities in fuller partnership with the manufacturers and should support, to a limited extent, at least, the national promotion of which they are locally the beneficiaries. As indicated above, the matter is now under active study and it is hoped that whatever proposals result from this study will have the active support of the member companies of the EEI.

Impact of Fluorescent Lighting

Every one recognizes that, as soon as wartime restrictions are removed, a tremendous demand should develop for fluorescent lighting equipment. The great increase in efficiency of this light source over the incandescent filament lamp and the general satisfaction with its use, when intelligently and properly applied to lighting problems, is bound to create a more or less complete transition to the newer light source in many fields of lighting application. If the improved efficiency of fluorescent lighting is used only to attain lighting levels with which we have become accustomed when utilizing incandescent light sources, the kilowatthour use of such installations will be approximately cut in half. On the other hand, lighting levels are known to be grossly inadequate and if full advantage is taken of the improved efficiency of fluorescent lighting to carry lighting levels up toward higher standards known to be justified, this transition can be carried on without serious loss in revenue to the utilities and, eventually, with a great gain in the value of the service which we render.

During the war we have all become accustomed to makeshifts. Consumers have been encouraged to curtail the use of our service for all but the most essential wartime tasks and it is only natural that some vestige of these wartime habits of thrift and of sacrifice on the part of users will carry into the postwar period. The importance of carrying on with increasing emphasis the educational program of the Better Light Better Sight Bureau will be vital if we are to overcome these habits quickly. In prewar years, great strides had been made in improving the lighting in homes, offices and factories through the use of equipment tested and certified to give lighting results in accordance with recommended practice established by the Illuminating Engineering Society. Outstanding in this development was the IES Study Lamp in which lighting performance was sold as a package. Our Committee feels that postwar lighting development can be carried on much more effectively if tested and certified equipment is more widely available for application to both fixed and portable lighting equipment for residential, office and industrial use. The problem of accomplishing this objective has been referred to the Lighting Sales Committee of the EEI and to The Better Light Better Sight Bureau.

Alternate Sources of Power

The war has greatly accelerated the development of equipment which can be used in substitution for purchased power. Included in this class of equipment are Diesel, and gas-fired prime movers; packaged steam turbines; packaged mercury turbines; and gas turbines. Production and distribution facilities for natural gas and petroleum products have been materially expanded. Not only have there been great improvements in the design and reliability of such equipment and in the availability of fuel, but demands of the Army and Navy have tremendously increased the manufacturing facilities for their production. There seems to be little question but that, after the war, there will be quantities of Diesel and gas-fired prime movers available on the

used equipment market and that bargain prices may attract many purchasers.

Before the war, servicing this equipment presented a major problem to its owner and was a serious deterrent to the installation of such equipment in substitution for purchased power. The Army and Navy requirements have been such that they have trained thousands of young men in the operation and repair of this type of equipment and the many men trained and available for this work in postwar years will mitigate the owners problem of maintaining this type of equipment.

The implication of these facts to the electric utility business should be self-evident and power from central station sources will be called upon in an increasing number of cases to meet the threat of this competition. The quality of service and the rates to be charged for it must be competitive but, even more important, utilities must have trained men intimately familiar with the characteristics of this equipment if they expect to hold their business against this postwar competition. This subject has been under continuous study by the Industrial Power and Heating Committee of the Institute for many years and they have issued periodic reports. At the suggestion of the Commercial Planning Committee, they are bringing their studies up to date and summarizing the present situation in a report which should be of inestimable value to the member companies and should be carefully read by every executive responsible for company policy.

Merchandising Policy and Practices

The impact of the war has been particularly serious on appliance dealers for the manufacture of electrical appliances requiring substantial amounts of copper, steel, aluminum and other essential raw materials, as they do, was one of the first of the WPB curtailment programs. Surveys made in many parts of the country indicate that many appliance outlets have been forced out of business and those which remain will have been seriously weakened by a long period when they have had to depend upon their repair business or upon other lines of merchandise. The present scarcity of household appliances has served to clinch, in the public mind, the essential utility of such equipment and there is no doubt that a tremendous pent up demand exists. Surveys of consumer intention to purchase, confirm this and electrical household appliances stand high on the list of things which people hope to buy quickly as soon as they are available. This, in itself, will aid greatly in rejuvenating the channels of distribution for such equipment but everyone recognizes that a period such as we have been through may bring about vast changes in the distribution mechanism for getting such equipment from manufacturer to user. Many utility companies are reappraising their local situation to determine what policy they should follow with regard to the direct merchandising of appliances through their own organization. This subject is likewise under detailed review by many trade groups such as the National Retail Furniture Association, the National Retail Hardware Association, and others of like interest.

The general adherence of utilities during the immediate prewar era to sound and recognized practices in the conduct of their merchandising activities has removed most of the acrimony which, at times, attended trade discussions of this matter. A much closer and more cordial relationship now exists than ever before and it is important for the utility industry that this favorable situation continue. In studying this subject, our Committee has recommended to appropriate committees of the Institute a review with interested trade groups of a statement of merchandising practices which could be considered acceptable by all concerned; a review of time payment financing and the institution of a comprehensive survey of probable postwar attitude toward utility merchandising.

Review of Business Practices

The utility business under Public regulation has gradually come to be operated by rules. To the extent necessary in order to avoid discrimination, such rules and regulations are essential. However, if we allow our business practices to be cluttered up with harsh, outworn or unnecessary restrictions, there is a serious threat to good public relations.

The American public detests rules and, particularly rules which are not understood or which are not satisfactorily explained. When people have no other source of supply to turn to in the event of dissatisfaction, their resentment toward careless treatment or a dictatorial attitude of "Take it or leave it—that's the rule" frequently develops trouble in unexpected quarters.

Can't we use this particular time for a soul-searching review of our business practices, trying to view them as our customers see them in an attempt to make it as easy, as convenient, and as pleasant as possible for people to do business with us? Curt, abrupt, or hard-boiled language has no place in the utility lexicon. When you go home, get out some of your frequently used forms, the statements of your rules and regulations, or of your rate schedules and read them over as if you were the buyer rather than the seller. I can almost guarantee that you will be shocked to realize how many things the *customer must do* in order to patronize your service. This is a matter of individual company review but we can all benefit by an interchange of information and be stimulated by the progress of others in accomplishing improvements.

For this reason, our Committee has suggested the creation of a joint committee between the Commercial, Accounting and Rate Committees to consider this problem.

Another factor which makes this subject of importance is the steady growth of national organizations doing business in many communities throughout the country. They have a unique opportunity to compare the business practices of different utilities and I know from experience that they are mystified and confused by the wide variety of the conditions which confront them in purchasing power for their different operations.

I recently tabulated, for my own edification, the demand provisions in typical Industrial Power Rate Schedules. I had to eliminate some because the condensed wording in the EEI Rate Book did not permit a clear understanding of the practice followed. Of 128 schedules applicable in industrial centers from coast to coast, I found four different demand intervals, 12 different methods of selecting the demand used for billing, and 13 different ratchet provisions.

Why, asks your customer, should the demand assessed by one company be on the basis of the highest 15-minute interval demand created during a given month, whereas another company uses an hourly demand interval, and others average a number of demands throughout the month? Why is a contract for power practically open order in one community, whereas, in another, it can only be terminated upon the payment of minimum charges for the unexpired portion of an extended contract term? These matters, of course, are difficult of resolution because of past history and because of the effects upon revenue in-

volved in making adjustments in rate schedule provisions. However, our industry might do itself a great service if it could agree upon some objective to work toward in the standardization of rate schedule factors and requirements. With such a model before us, opportunities would present themselves from time to time to gradually work toward a better degree of simplification with a resultant improvement in our public relations. I made inquiry of one of the large electrical manufacturers as to the number of models of demand metering equipment which they list in order to meet the varying requirements of the utility companies throughout the country. They reported the seven basic types of meters they built ran to over a million different assemblies to cover various combinations of time interval, ratio, scale, frequency, voltage phase, and type of circuit. Perhaps if we could reach some better degree of uniformity, there might be additional economies and advantages through cheaper equipment made possible through a reduced number of models. This is a subject which might well have serious consideration by the Industry Committee on Repetitive Manufacturing and Equipment Standardization.

Training Employees

War conditions have decimated the commercial organizations of most utility companies and to rebuild them at the proper time will require the most comprehensive training program we have ever faced. One of the first recommendations of our Committee was the appointment of a special committee to consider the subject of Sales Training. After careful study, they have recommended a training program for sales employees divided into four basic subdivisions as follows:

1) An indoctrination course to acquaint the new employee with basic information about the utility industry and the individual company he is to work for.

2) Basic principles of selling.

3) The advantages of electrical service in various fields of application.

4) Product information.

Indoctrination is an essential part of any program for training salesmen but it has also been suggested that this would be of equal benefit for training *any* new employee or for the retraining of employees returning to the utility company after the war. Turnover in many departments has been extremely rapid throughout the war interval and new employees need this background which older employees had gradually acquired through many years of intimate contact with our business. It is therefore being suggested that the Operating Committee determine the extent of the interest in such a general course and act accordingly.

In the meantime a special committee is being appointed to develop and make available a Sales Training Course consisting of Basic Selling Principles, the Advantages of Electric Service for Various Applications, and Product Data.

Training techniques used by the armed services have been highly developed during the war with a tremendous increase in the use of visual instruction to speed up the training process. The application of these techniques to our problem will require a substantial underwriting investment but one which should be self-liquidating through the purchase of training materials by individual companies. The substantial sums necessary for the production of quality training materials indicate clearly the advantages of undertaking such a project on a cooperative basis. The time required to develop suitable materials applicable to our specific problems indicates the desirability of prompt action.

Victory Light Up Celebration

Our Committee gave attention to the spontaneous development, in many widely separated parts of the country, of various ideas for victory festivals to celebrate the coming of peace, many of which involved the utility industry. I think the idea was sparked by the remark which Prime Minister Winston Churchill made to the effect that the first thing he hoped for with the coming of peace was to lift the blackout restrictions and celebrate the coming of peace by lighting up the British Isles from one end to the other. This was recognized to be a delicate subject as public emotion would be hard to contain or direct into any specific form of celebration, and the Army and Navy might well feel that such discussions were inappropriate until the pattern of victory could be much more clearly seen. However, it is inevitable that such celebrations will rely, to a considerable extent, on the use of light as a symbol of peace and, therefore the pattern which these celebrations may take is of vital interest to our industry. It was felt prudent, therefore, to give some consideration to the possibility of developing a program which might be available so that, at the proper time, it could be brought to public notice with the utilities following their long accustomed role of leadership in every worthwhile civic enterprise in their local communities.

Our Committee, in consultation with representatives of the lamp manufacturers, has put together an outline of a program which might be nationally applicable to such victory celebrations and, on our suggestion, a special committee of high ranking utility executives has been appointed to study the subject and offer recommendations at the proper time.

This brief and sketchy review illustrates the wide range of subjects which are involved in postwar commercial planning and the many committees of the Institute which are now working on one or another phase. Our Committee proposes to bring these various matters into focus for the benefit of member companies through a series of reports. The scope of these reports has been determined; assignments have been made; and work is now in progress with the hope that most of these reports can be completed and released early this Fall. The series will consist of the following:

1. Basic Planning Material for Electric Utilities

This will be a digest of pertinent statistical and background information particularly selected for its application to the problems of the electric utilities.

Many of the data have already been released so as to be more quickly available, but the report will summarize and organize the material in convenient and handy form. It will include such information as the production record of the utilities; load behavior following the First World War; postwar outlook on power capacity and load; methods of forecasting system loads; probable changes in sales to major industrial classifications; and data on population shifts.

2. An Appraisal of Our Competition

This report will summarize the present status of studies which have been going on for some years in the Industrial Power and Heating Committee of the Institute under two broad headings:

a) Present and future trends in generating equipment using coal, petroleum products and gas.

b) Probable trends in availability, prices and processing of coal, petroleum products and gas.

This material will deserve the very

careful study of every executive officer in the electric utility industry.

3. A Summary of Available Data on Residence Load Characteristics

Many individual member companies, over a period of years, have done considerable research on the load characteristics of residential service as they influence distribution design, and the relative desirability of specific applications of electricity for residential use. This picture is changing with the ever expanding variety of household appliances and with changes in their saturation. Headquarters staff is undertaking to digest all of the available data and to indicate gaps in the information which should be the subject of further research and study. There is a tremendous mass of data at hand and it is felt that the preparation of this digest and summary will be a real service to the member companies in helping them decide the direction and intensity of postwar residence load building activities.

4. Marketing Problems in the Residence Field

The Residential Service Committee is undertaking preparation of a report summarizing the principal factors to be considered in designing postwar load building programs in this field. It will include such subjects as estimates of new residence construction; wiring deficiencies in existing structures; prospects for the manufacture of appliances and equipment; a survey of trends in appliance distribution; and a discussion of conditional sales terms and financing.

5. Rural Electrification

The Farm Service Committee has assembled a considerable mass of material and will undertake the preparation of a report summarizing the status of rural electrification and the problems in this field under such headings as rural electrification records; data on the number and location of unserved farms; trends in rural line extension plans; and a discussion of electrified agricultural equipment available, of desirable improvements, and of additional possibilities in electrifying farm operations.

6. Postwar Lighting Markets

This report is being undertaken by the Lighting Sales Committee and will include such subjects as the status of lighting markets as shown by surveys; a discussion of the probable effects of the transition to fluorescent lighting sources; the present status and possibilities of cold cathode fluorescent lighting; the problem confronting the utilities in breaking wartime consumer habits of lighting conservation; the status of programs for tested and certified lighting equipment; and a discussion of traffic safety lighting.

This group of reports will, it is hoped, provide a series of bench-marks against which member companies can check their postwar programs and obtain the benefit of a wide cross-section of opinion on the problems involved.

Our Committee has recognized that planning is an individual matter which must have the executive attention of each individual utility company. Most planning work must be done at home. Our objective has been to stimulate such action on the part of member companies and to give thought to improving those phases of commercial activity which have been subject to group action in the past, or might appropriately be so handled in the future.

The trade press has been full of discussion of establishing goals and objectives for our postwar commercial activities and, in some cases, figures have been picked out of the air without too much consideration of the problems which would be involved and the money which would have to be spent to reach them. Individual company opinion, for example, on the possible five-year increases in residential consumption per customer, varies widely based upon past experience and competitive factors operating in the local area. I have seen figures which indicate a variation of from seven to one in the estimates of increase in residential consumption that can be accomplished in a five-year postwar period and there is some danger, to my way of thinking, in attempting to put forth a national goal for such activity. The Commercial Planning Committee feels, however, that individual goals established by the management, after a realistic consideration of the factors applicable to their local marketing problems, will be stimulating and desirable. The analysis incident to the establishment of such goals will disclose the magnitude of the commercial program required to obtain even modest results.

In closing this report of the activities of our Committee, it seems appropriate to remind ourselves that the scramble for the postwar consumer's dollar will be no picnic. The great aggregations of American business, in spite of their preoccupation with war production problems, are finding time to develop outlines of their postwar plans which are geared to the most optimistic levels in the production of consumer goods that this country has ever known. Their programs will be well conceived and powerfully supported with every sales and advertising tool, and our industry cannot expect to get its rightful share of the consumer's dollar in the postwar period unless we are prepared to fight for it. In fact we may have to fight to hold onto what we have, and it will cost money to fight effectively.

Discussion of Mr. Skinner's Address

By Hugh C. Thuerk

Chairman, EEI Postwar Planning Committee

THE initiative and energy displayed by Mr. Skinner and his Committee throughout the past year has been a constant source of inspiration and satisfaction to the members of your Postwar Planning Committee. Mr. Skinner's remarks speak for themselves, but I should like to mention that there have been many other important activities handled by his Committee in addition to those which he has described to you. Inasmuch as a large portion of the postwar planning activities of our industry lies in the direction of sales and commercial activities, we are fortunate in having such an active and competent group at work in this field.

Before commenting on some of the activities of Mr. Skinner's Committee, I should like to state that an Engineering Planning Committee has been formed under the leadership of Mr. R. T. Henry of the Buffalo Niagara & Eastern Corporation. Mr. Henry's Committee will consist of two representatives from several of the existing Engineering Committees. His Committee has already taken steps to expedite studies and investigations in our industry and other related groups looking toward the development of preferred ratings and standardization, or as one company called it, "Equipment Planning and Coordination."

Last fall in Detroit, your Postwar Planning Committee held a meeting with representatives of the larger electrical equipment and appliance manu-

facturers to discuss general policies involved in attaining the benefits of repetitive manufacturing and standardization. As the result of this meeting, a joint committee has already been set up on power transformers and other procedures are in process to put on a continuing basis the machinery necessary to accomplish our objectives in this direction.

Now in the remainder of the time allotted to me today I'd like to emphasize and further discuss what Mr. Skinner labeled as the "basic question transcending all others as an influence on planning and plotting our future course of action." The question baldly stated is—can the trend toward socialization of the electric utility business be stopped and a halt called to the efforts of those now engaged in a campaign to remove our industry from the field of private enterprise and turn it over to Government operation? We agree that this is the most important problem facing our industry today, and should be given first place in our thinking about the postwar period. Was Mr. Arkwright correct when he told the Southeastern Electric Exchange early last month that we have been a rank failure in protecting our business from attacks against it? He indicated that we have neglected to get our customers to protect free enterprise. If we were ever fit to be trusted with this business, he said, it is our duty to keep somebody from taking it away from us.

In trying to think objectively about this problem, it seems to me that we could take a lesson from the military strategist. We need to have strong defenses and then we must protect them with adequate manpower.

Mr. Skinner has already described the need for the building of these defenses, which to me consist primarily of sound business practices. Where we have already done it, our policies, rules, and procedures relating to our methods of doing business with the public should be reviewed carefully and modernized. We should make it easy for our customers to do business with us and to understand the methods of conducting our business.

Foremost in desirable business practices is a liberal and energetic rural electrification program. The desirability of this has been most ably covered here today by Mr. Rork. It is becoming increasingly clear that within a very few years the bulk of our rural homes and farms will be electrified, either by us or the Rural Electrification Administration Cooperatives. Presently unserved areas will be preempted in a relatively few months after construction materials become available. It is up to us to determine how much of this business we shall have. Let me emphasize that the Rural Electrification Administration is pursuing a militant course and we will need to actively push our rural electrification programs if we are to serve the prospective customers now in our areas.

It is evident as time goes on that people are becoming more conscious of the desirability of local and community planning. Some local planning boards have been formed and many of them have already made progress in developing postwar plans. This has been brought about in part through the influence of the Committee for Economic Development and similar commercial organizations. Great stimulus has been furnished also to this movement by the American Society of Planning Officials, which has held many meetings in different sections of the country for the purpose of promoting efficiency of public administration in land and community planning.

Now no one should be more interested in sound city planning than utility companies. Where sound long range plans are projected in a community it is a relatively simple matter for utilities to plan future load growth and construction.

By the very nature of our business we are perhaps unusually qualified to assist in city and community planning. We are used to this sort of procedure in that our own plans are usually made on a 5 to 10 year basis. I should therefore like to emphasize what Mr. Vecker has so well said today, that a great opportunity is present in the field of community planning for our executives to work with the forward-thinking citizens of our cities and towns. This sort of work is not easy. It takes a lot of thought, effort, time and statesmanship. It will mean sacrifice and perhaps fewer golf matches and fishing trips. It is no activity for the professional handshaker —on the contrary it needs our top executives. The price is high but the reward is great.

Streamlining our business practices and contributing our full share to community planning constitute strong defenses but by themselves will not be sufficient to protect the industry against the attacks of those who would destroy it. These defenses must be manned by a united industry. Here again we have a weakness which was fully recognized by Mr. Skinner's Committee and which was called to the attention of your Postwar Planning Committee in the hope that we could make some constructive suggestions for improving our trade association organization in the postwar period.

It requires a high degree of statesmanship and diplomacy to discuss this situation before this group. In the absence of proper qualifications to perform this task I am going to merely repeat the facts and suggest that you do some thinking about them.

At the present time there are four groups in the electric utility business operating on a national scale; there is the Edison Electric Institute, the Council of the Electric Operating Companies, the National Advertising Group, and the Association of the Edison Illuminating Companies. Would we, as an industry, be in a better position to keep our business in the field of private enterprise if there was but one association through which we pooled all of our resources?

The last thought I'd like to leave with you is not a new one. However, it seems to me that we have reached the place where we must now do something specific about it. I am referring to the interdependence of American industries and enterprises, one upon the other. One business group cannot witness the socialization of another without discovering that their own enterprises are being imperiled. Perhaps the best example of this type of thinking occurs in the executive halls of manufacturers who encourage municipal and Government ownership in order to sell their products and in the offices of certain investment bankers where municipal and Government ownership is promoted in order to obtain underwriting fees and profits. Neither of these groups would welcome Government ownership and operation of their own business and possibly neither realizes that encouragement of socialization of the electric utility business is only the preliminary step in the creation of a completely socialistic state.

What efforts have we made to point out the relationship between our business and other commercial and industrial enterprises? Here is a big job, one which could easily require the combined resources and energies of our entire industry.

So in closing let me leave with you three questions; first, are we reviewing and remodeling our business practices in such a manner that every customer will like to do business with us? Second, should we unite to form one strong trade association? and third, how can we best convince our fellow business men that Government ownership and operation of our business is only the first step toward similar treatment of their own?

Manpower and Labor Trends

By H. K. Breckenridge

Chairman, Industrial Relations Committee, EEI—West Penn Power Company

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 6, 1944

UNDER wartime conditions manpower and labor problems have become increasingly important to all industries. These problems, which used to be almost entirely the local concern of each company, have now become matters which are greatly affected by nation-wide rules and regulations of several Government departments, including the Selectice Service System, the War Manpower Commission, and the National War Labor Board—to mention only a few.

Labor relations problems involve most companies with national Unions, and the result is a trend toward a greater similarity of wage standards and of working conditions among electric companies.

These trends all point to the need for our industry to be better informed on its own manpower and labor practices in order to make effective presentations to national and state regulatory agencies, and in order to guide each company in its own collective bargaining. We should certainly be as well informed about labor relations in our industry as the labor organizations with whom we deal. Unfortunately, that is not always the case

To do something about this, the Edison Electric Institute established its Industrial Relations Committee about a year ago.

The Committee functions largely by holding monthly meetings at which an entirely informal discussion of current manpower and labor problems takes place. Through the medium of informal discussion, those companies participating keep better informed on matters affecting their manpower problems and personnel relations.

The Committee also sponsors and has developed a regular exchange of information on wage rates for certain key occupations in the electric industry, and on collective bargaining contracts. Any electric company may participate in the exhange of information whether or not it is a member of the Institute. This information, as summarized and digested by the EEI staff, is available only to companies which participate in the exchange of data, and no company names are used in the summaries. There are now fifty-three companies participating in this exchange of personnel data, which represents approximately 130,000 employees or about 63 per cent of the estimated total employment in our industry. It's a very representative cross section of the industry, and is the most authentic information available on wage rates for key jobs and working practices in electric utility companies.

These wage data are, of coure, intended for use in making only general wage comparisons. It is always necessary to make more detailed and up-to-date survey of jobs and rates, including a careful comparison of the actual content of jobs, before using comparative wage data in arbitration cases or before the National War Labor Board. Obviously, any such data can be used only with the permission of the companies involved, and none of the EEI data is used in any cases involving Unions or regulatory agencies without the specific permission of the companies quoted.

As a result of the discussions of manpower and labor matters by the Committee on Industrial Relations, several trends are evident.

I. Selective Service

The Selective Service System has recently cleared up much of the doubt in every one's mind about the probable outlook for induction of men. It now seems clear that for the next several months we may expect to:

a. Lose all men under age 26 regardless of their job, if they pass their physical examination.

b. Retain men age 26 to 30, who are really necessary in our essential operation, for five or six months—and the prospects are good that some of these holding especially critical jobs may be held for more than six months.

c. Retain all men age 30 to 38 whom we need to keep, since there is no question of our industry not being an essential industry.

When the induction of men under 26 was decided upon, the Office of War Utilities made a very quick survey of the electric industry and decided that no serious threat to war production would result if no deferments were asked for men in this younger age group. In agreeing to make no fight for the under-26-year-olds, the OWU stated that if the higher-age groups should next come up for consideration, a definite effort would have to be made to protect the many essential men in the electric industry whose loss would seriously affect power production.

The OWU has conducted a survey by questionnaire to determine how serious the losses of men in the age 26-30 group would be. The results of this survey show conclusively that no general induction of this age group on the same basis as the younger men can be carried out without serious effect on many operating companies. We have been assured that the OWU intends to do all it can to protect the industry from losses of men in this age group where such losses will cause a threat to the maintenance of electric service.

The exact manpower needs of the Army and Navy are apparently dependent on losses in combat and the success of pending military and naval operations. If substantial numbers of the men are needed, it is evident that they will come from the age 26-30 group first, and then the higher-age group will again be subject to more general induction. Our job for the immediate future seems to be the careful review of our men in the 26-to-30 age brackets to determine how many we can release when they are needed, and to prepare convincing evidence of why war production will be adversely affected by the loss of any of these men whom we need and cannot replace.

We have assurance from the OWU that they are aware of the problem which will result from the loss of large numbers of men in this age group, and we can expect OWU to give us any possible help in presenting our case convincingly to National Selective Service Headquarters.

Companies using Replacement Schedules are still having them accepted by State Headquarters of Selective Service, but the trend seems to be toward less use of Replacement Schedules, especially where only a comparatively small group of men are within draft ages. The emphasis must still be on working with Local Draft Boards on deferment requests, making certain that the Local

Boards understand the special problems of our industry and the essential nature of our jobs.

II. Available Manpower

Replacements for men drafted are very largely unobtainable in most localities these days. The manpower picture is not a uniform one all over the country, however, and some companies are still able to get a few replacements.

In the acute labor shortage areas, companies have gone to 48-hour or longer work-weeks, have used women extensively in various operating jobs, have had some success in transferring employees from less critical jobs to more critical ones, and in many ways have achieved a high utilization of available man- and woman-power.

Many other companies have not had to meet such a serious labor shortage as yet and can still find many ways to more fully utilize their present labor supply and can make some replacements.

The general picture in the industry today is that power stations are predominantly on 48-hour or longer work-weeks. Many substation and lines organizations are working 44 hours or more while office forces, even in some critical shortage areas, are largely on a 40-hour week.

The fact that the 48-hour week has not been universally adopted does not mean that the industry is wasting manpower. It rather reflects the fact that no greater efficiency will be achieved by putting small groups of employees on longer work-weeks where there is no more work to be done. This is particularly true in operations where small crews protect the service of a sizeable rural area. They must be there to handle troubles, but may not have enough regular maintenance or operating work to justify a longer scheduled work-week.

The use of women on operating jobs, such as in power station operation, has not proved very satisfactory in most companies where it has been tried extensively. Their efficiency as meter readers has also been generally well below the standards previously set by men. Probably they have been under a severe handicap in being placed in jobs not engineered for women, and it is likely that the jobs in our industry need to be re-engineered if we are to get the maximum benefits from the use of female labor. In spite of the difficulties encountered in placing women on jobs previously designed for men, the fact is that in several companies they have helped to solve a very critical labor shortage, and all companies have found many office jobs where women are doing as good or better work than their male predecessors.

III. Post-War Manpower

Many of the post-war manpower problems are already beginning to confront us on a small scale as men are being discharged from the armed services.

As these men return we are beginning to face some serious readjustment problems, especially since most of the men now coming back are being released by reason of some disability.

We have much more opportunity to experiment with suitable placement of these men now, when there are many jobs to be done and not much manpower available, and our experience now ought to be a valuable guide in determining policies and techniques of placement for the many more men who will later return.

There is no doubt that we will all want to take back our own former employees who are able and who want to return. It is our obligation under the Selective Service Act and a public obligation we would certainly never want to avoid.

The bigger post-war problem is likely to be what share of the returning service men we will be able to absorb from the huge pool of young men who went to war directly from school and who have no civilian work experience. These young men are part of our future labor resources, and many of them will be excellent material with special technical experience our industry can easily use.

The greatest problem with the returning service man who was formerly employed will be that of intelligent placement in a job for which he is fitted by his total experience, including his experience in the Army or Navy. The ex-office boy may now be a trained pilot or signal engineer, he may have commanded men and be used to responsibility, and he may have a number of technical skills which equip him for a much better job than the one he left. He is already wondering what his old company may have to offer him where he can use his greater ability.

Many companies are doing considerable post-war personnel planning. One company has carried its planning to the point where detailed forecasts of post-war personnel requirements have been made. Paralleling the forcasts of needs, a record is being prepared of every former employee with the latest available data on his capabilities and probable best use in the jobs which are expected to be available. An interesting part of this company's post-war personnel planning is the inclusion of special projects on which returning service men can be placed temporarily during the adjustment period while they are again getting used to civilian life. Such jobs will be helpful to the man in his readjustment period, and will give both the man and the company a better chance to solve the problem of a satisfactory permanent placement.

IV. Collective Bargaining

Collective bargaining is not new in our industry, but until recent years the large majority of employees were not members of Unions, and many companies had no Union contracts at all. Today there are very few electric utility companies who do not have the problem of engaging in collective bargaining for part or all of their employees.

This trend toward unionization in our industry has been considerably accelerated by wartime conditions which bring about uncertainty and unrest in the minds of every one—employee and supervisor alike. Electric utility employees did not generally feel the need of Unions since their jobs were more stable and their wage rates were favorable relative to most other industries. Employees realized the benefits to them of a regular income, and recognized that they were better off on their jobs than they might be on jobs with higher wage rates but with more uncertain employment. Our industry has also been among the leaders in providing Insurance, Sick Pay and Pension Plans for employees which also helped to make our jobs attractive and promoted stability of employment.

The wartime situation has created severe tensions affecting all personnel, including both employees and supervisors. These tensions come from many things over which neither the company nor the employee has much control. They include controlled wage standards; difficulty of transferring to other jobs under War Manpower Commission regulations; the uncertainty of employees as to whether or not they should or will be required to join the armed services; rising taxes and other costs of living; concern over members of the family who are in the Army or Navy; and worry over what may happen post-war. Added to these factors which contribute toward upsetting employee and supervisory morale is the fact that util-

ity wage rates and working conditions are in many cases not as favorable today as those offered by other industries with direct war contracts. Even where our wage rates are comparable, weekly earnings of war industries are frequently much higher due to much longer working hours.

All of these factors have caused utility employees to be much more receptive to the idea of joining Unions, whether or not they can see any clearly-defined benefits in such affiliation. It is also true that the unrest which is reflected among supervisors as well as employees must be a contributing factor, through their inability to do as good a job of supervision as formerly, particularly with reference to the employee relations part of their job.

There are other reasons why Unions have grown in our industry, some because of special local situations where the community was strongly pro-Union and where our employees have felt more or less forced to join; in other instances changes in management have precipitated a Union due to lack of confidence of employees in the new management policies.

Whatever the reasons may have been, these significant facts appear:

a. Union membership predominates among the so-called "physical employees" of the electric industry, including employees of power stations, substations, and lines departments.

b. Engineering and clerical employees are not yet generally represented by Unions in spite of greatly intensified organizing efforts by Unions among these groups recently. A number of companies are bargaining with Union for these employees, but Union organizers seem to find it harder to convince the office workers that they have anything to gain by joining Unions.

c. There has been a tendency on the part of some Unions to try to include in Union groups employees generally considered supervisory—particularly attempts to include line foremen.

d. In many places there is considerable unrest within Union organizations, resulting in difficulty on the part of Union officers in keeping their membership satisfied, and resulting in a multiplicity of petty grievances and arbitrary action.

e. Unions recognize the present situation as especially good for organizing among utility employees, and are doing their best to take advantage of it. This trend not only results in more groups being organized, but has precipitated additional strife between Unions for the right to represent various groups.

What Can We Do About Morale?

In considering the Management problem of meeting these trends, it appears to be first of all important to recognize the fundamental difficulty—that is, that wartime uncertainties and wartime regulations affecting the lives of individuals bring about much of our employee unrest. The problem is, of course, complicated by the fact that most of these causes are not things within the control of Management. There are, however, some things which can be done to minimize these effects on both employees and supervisors.

Among the things which can be done to contribute to the peace of mind of employees and help toward a smoother-running job, are:

a. Be certain that employees know as definitely as possible what the Company is doing about their Selective Service status. Employees should know if their jobs are considered essential, and should understand that their jobs are making a substantial contribution to the war effort.

b. The problem of wage increases is uppermost in the minds of practically all employees. If wage standards are at permissible ceilings under present regulations, it may still be possible to explain that fact to employees, and to try to have them understand something of the severe penalties to which companies are subject for non-compliance. Management needs to make every effort to convince employees that whatever is possible and proper is being done to keep the Company's wage structure a fair one.

c. The need for information between employees and supervisors about Management's problems and Management's policies is especially great under present conditions. Manpower shortages and lack of time on the part of busy department heads tend to prevent the normal channels of information from being used as effectively as they should be. It is also difficult to find time or manpower to conduct conference programs or training programs under present-day conditions. In spite of the difficulties, we may need to do more than we are doing to improve the flow of information and understanding between Management and men, and information should flow freely in both directions.

d. Supervisors need special training to handle their employee relations jobs in situations where collective bargaining has recently become a part of their job as Managers. It is especially difficult for a supervisor of many years' experience, who has been accustomed to having his orders obeyed without question, to get used to having to deal with a Union committee on matters affecting his employees.

e. Management not only needs to do post-war planning, but needs to advise employees that the Management of their company is giving thought and attention to providing a stable post-war job in a growing enterprise.

None of the above suggestions are particularly new, and the list might be considerably expanded. The main point of all of them is that employee confidence and employee morale is too important to Management to be neglected, especially under wartime conditions when the job of building good employee morale is more difficult than ever before. Management cannot afford to neglect the morale of employees, whether or not they are partially or wholly represented by Unions.

How Can We Do A Better Job of Collective Bargaining?

To meet the considerable increase in collective bargaining problems faced by the electric utility industry, there are many things to which Management needs to give special attention. Among these are:

a. Have trained and competent personnel handling collective bargaining problems.

For most companies collective bargaining is too important to be only a part-time job for a busy executive whose major responsibilities lie in other fields. The personnel of most national Unions is of high caliber, most Unions having specialists in labor law and regulations, wage and salary standards, and similar expert advice and assistance at their command. Management cannot afford to have a less informed and less competent staff handling its part of the collective bargaining procedure.

b. Be familiar with the collective bargaining situations in other companies and in other industries as an essential tool of Management.

In general, the Unions are well aware of wage rates and working conditions in other companies. Management can hardly afford to be less well informed, especially within our own industry. Both state and national associations of

utility companies are doing a better job of exchanging information on labor matters, but it would appear that much more might be done in this respect within our industry.

c. Do some advanced planning on what kind of a wage structure is most desirable.

Management needs to do more than meet the day-to-day collective bargaining problems. Objectives as to types of wage standards, working conditions, and employee benefits, need to be established so that intelligent collective bargaining may be done to fit in, as far as possible, with predetermined plans. The tendency of collective bargaining on wage rates is to make general increases, with resulting perpetuation of inequities in the wage structure. If a modified wage structure can be planned in advance of collective bargaining, it may be possible to come out of a wage negotiation with a new and sounder wage structure rather than a less desirable one.

d. Adopt consistent policies on fundamental issues before going into collective bargaining.

This does not mean that Management can be arbitrary in maintaining its point of view, but it does mean that Management's objectives should be clear and their relative importance to Management should be well-understood by the collective bargaining committee. Without this clear understanding, it is easy to make concessions which may lead to more serious concessions later, or it may also be true that the collective bargaining committee may waste considerable time defending positions which are of no serious concern to Management.

Among the points about which Management needs to consider its fundamental policy are:

1. Its policy on recognition, including whether or not to insist upon Labor Board certification.

2. The definition of "bargaining units." These may be so defined as to parallel regular organizational lines within the Company and thereby simplify the handling of grievances. They may, however, be greatly complicated by the fact that employees have chosen various units to represent small groups of employees in the same general department.

3. Management needs to define who are supervisors, and draw as clearly as possible the line between Management representatives and men eligible for membership in Unions. This is a matter which has caused considerable concern lately, especially in view of the national publicity on the strikes of foremen in the Detroit area. It would seem to be clear that the public does not sympathize with the desire of Unions to include supervisors, recognizing the impossibility of carrying out the job of supervising with men who are part of the bargaining agency which includes the employees supervised.

4. No-strike clauses appear in most utility agreements, and most Managements have been successful in convincing Unions that the public interest inherent in our business permits of no strikes in settlement of our labor disputes. It seems to me important that we recognize that this is a continuing obligation in our business, and not a temporary wartime situation.

5. Sound and practical grievance machinery is an essential for the orderly operation of Union contracts. Management needs to see that the grievance machinery operates smoothly, with no undue delays, and is not made too complicated. Cumbersome grievance machinery not only takes an unnecessarily large amount of Management's and employees' time, but tends to delay settlement of grievances or even create new ones.

6. The grievance procedure normally leads to the ultimate settlement of disputes by arbitration, and Management needs to give thought to the most practical method of arbitration, establishing it by agreement with the Union before the parties are faced with an issue.

7. The addition of merit rating to the wage structure, to a practical degree, is a matter about which Management needs to do considerable advance planning. Without a clearly-defined and understandable method of determining merit, the tendency of Unions is to insist that wage structures either contain a single rate for each job, or if a rate range is used to insist that automatic increases be provided over relatively short periods of service. Management's job in this connection is to devise merit rating plans which can be "sold" to employes as fair and reasonable, and which will be practical in administration.

8. The question of Union security seems to be reasonably well settled for the duration of the war by the War Labor Board policy of granting maintenance-of-Union-membership clauses in dispute cases brought before the Board. Unions are naturally concerned about being able to hold their wartime gains. Managements are generally firmly against being required to make Union membership a condition of employment. With all of the limitations of the maintenance-of-membership provision, and the fairly united opposition to it on the part of employers, it may be fortunate that the W.L.B.'s policy has largely removed this particular issue from collective bargaining during the war.

9. Another important consideration in meeting the collective bargaining problem efficiently is understanding on the part of Management of the real desires of the Union leaders and the Union membership. Sometimes the real desires of employes are not apparent from the list of demands made on the company in a contract negotiation, and it may take many days of discussion to develop what issues are of paramount importance to the employes who are represented by the Union. Until Management is convinced of the issues which the Union considers the most important, it is difficult to do any intelligent collective bargaining. Without such understanding Management may easily make concessions which have no substantial value in the inevitable trading which seems to be a part of the bargaining process.

The problems of Management which result from collective bargaining are only new as to methods. We have always had to try to determine what our employes want and we have had to establish wage standards and working conditions. The fundamental Management objective remains the same—namely, to achieve the best possible employe attitude toward his industry, his company, and his job.

With good employe morale, Management achieves efficient operation in the best traditions of utility service. Without good employe morale, millions of dollars of payroll will be wasted in inefficient use of time and careless use of equipment and materials. Good employe morale is not purchased by a wage increase or other benefit, and it is not ncessarily the result of there being or not being a Union. It seems to depend largely upon how much confidence employes have that their boss is fair and that their company is soundly managed. It is the sum total of the employe relations job of top Management and every supervisor. I am sure that the kind of Management which built this industry and is keeping it progressive will be intelligent enough to meet the challenge of today's difficult employe relations job, and will be able to run the industry successfully under present and post-war conditions, with or without Unions.

Tax Equality

By Ben C. McCabe
President, National Tax Equality Association

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 7, 1944

I HAVE been asked to talk to you today about the task which the National Tax Equality Association has undertaken in the effort to protect independent American enterprise from post-war liquidation through the operations of a socialistic adventure that is known as the cooperative commonwealth.

Strange as it may seem to you, it is our experience, based upon meetings in many parts of the United States, that nine out of ten business men have practically no knowledge of the exceedingly rapid growth of this Government-sponsored competition, or what it is doing to them, or how it is absorbing private industry, or what it implies for the future of both economic and political America. Yet, I give you my word that if independent business men do not soon awake to the dangers that confront them, their days are most certainly numbered.

I shall present to you this afternoon the broad aspects of this situation as represented by the basic program of the National Tax Equality Association.

I shall not try to confine my remarks to your field of interest, because I think it essential that you understand the far-flung disturbance to the American system that is involved in the hodgepodge of tax exemptions, special privileges and favoritisms that has been injected into our economy over a period of many years.

You know, far better than I could tell you, how the utilities have been browbeaten and attacked by the bureaucrats and their pets; how so-called yardsticks have been imposed upon you; how Government propaganda—paid for by you—has been turned against you in many parts of the nation.

But you may not be fully aware that you are not alone in this assault—that practically all independent enterprise is also being relentlessly pushed to the wall by the same sort of tactics.

Primarily, the National Tax Equality Association is engaged in an intensive study of tax inequalities of all kinds, and the education of the public with regard to the inequities that are represented.

It is surprising to find out how much skullduggery is going on in the name of tax exemption. There are no exact figures to be had, and we have not yet uncovered all the ways by which taxes are being avoided, but even now we estimate that billions of dollars a year of potential tax money is being lost to the Government and the states.

It is being lost by inequalities in taxation that appear in many strange and sometimes fearful forms. Before I go into some of the larger and more costly aspects, let me give you a few simple examples.

In some states, railroads, buses and airplanes—all common carriers in direct competition for business—are taxed under entirely different formulas. In almost every state, hotels run by charitable institutions compete directly with commercial hotels for the patronage of travelers, but pay no taxes. Inheritance taxes are aimed to consume great fortunes by distribution and dissipation of the principal. Social security taxes are quite frankly for revenue and not for the security of anyone. Laws of some states permit a man to make a will, while he is still in the prime of life, to give his estate at death to a charity—and thereafter for as long as he lives, enjoy the complete income without payment of real or personal property tax. Many counties, especially in the far west and south, have gone broke because government has taken so much property for war purposes, and that property is no longer subject to taxation. There is double taxation of corporation income under present law, as you all know. Perhaps some of you have experienced the strange inequality of the income tax law under which many high-salaried executives are paying more money in taxes this year than their total income. There are punitive taxes, like those on chain stores and on oleomargarine; we shall perhaps soon have taxes to pay for medical and dental care. There are hundreds, maybe thousands, of local and state inequalities.

And through all of this unwieldy tax system—or lack of system—runs a general attitude of robbing Peter to pay Paul—of favoritism and privilege for some and of punishment for others.

Such inequalities in taxation are not new, of course. They have quietly been injected into the statutes over a period of many years. But none of them bulked large until the past few years.

Now we are engaged in the most costly war the world has ever known. It must be paid for, and the Government has no way of paying its bills except through taxation. Our national debt is climbing to astronomical heights. That too must eventually be paid—out of taxes imposed upon the people.

Is it right, gentlemen, that our Government's war debts—incurred to preserve *all* the people, and *all* the businesses, and *all* of the rights and freedoms that have been passed on to us by our forefathers—should be paid by only a *part* of the people and a *part* of the businesses? No nation can endure half slave and half free—and this nation will surely fall if part of us are in economic slavery, while another part is left unpatriotically free of its just share of the tax load.

Today it is evident that unless taxes are equalized—and unless the tax system is actually used for necessary government revenue—the economy of the nation will eventually be completely destroyed and we shall arrive at the Fascist state that is threatened by increasing government control of business, by the rapidly mounting total of the national debt, by hidden inflation, and by government favoritism in taxation and in the lending of money.

Today's biggest threat to business comes from bureaucratic favoritism to some at the expense of others. The chief inequalities in taxation arise from special privilege in which private business does not share and from the fact that some businesses are permitted to play the game under entirely different rules from those enforced upon private enterprise—though the first rule of fair competition is that competitors should play the game under the same set of rules.

The chief beneficiaries of this unfair competitive situation are the Government-owned businesses and the coopera-

tive associations. Make no mistake: they are very big businesses. In the electric power business alone, the Federal Government has spent more than two and a half billion dollars, and municipally owned utilities represent at least another billion. More than fifteen billion dollars worth of manufacturing plants have been built by Federal money and are now tax exempt—and if they are operated as Government businesses after the war they will compete with private enterprise in nearly every field. The cooperatives are doing almost four billion dollars in volume a year.

These are your competitors, and because they are specifically exempt from the high Federal income taxes that are today taking most of the earnings of all corporations they are growing faster than any other businesses in the land.

I want to talk to you about these tax-free competitors, and tell you what the National Tax Equality Association is trying to do about them on behalf of your industry and my industry and all the other big and little businesses that face such a bleak future because of them.

First, because it is a form of organization that is rather new and is growing with the greatest speed, let me tell you some of the problems that arise out of cooperatives.

The cooperative movement began just a hundred years ago when the weavers of Rochdale conceived the idea of buying and selling together. It came to America some thirty or forty years ago. Farmers joined together to sell their produce at better prices than any individual, selling alone, could hope to get.

Many people looked upon the movement as the savior of a declining agriculture. Congress appears to have looked upon it in the same way, for there immediately began to be passed an endless series of laws generously aimed to foster the speedy growth of cooperation. For instance:

The Capper-Volstead Act of 1922 set up the system and declared that a cooperative of farmers or fruit growers should not be considered a monopoly, whatever it might do.

The Farm Credit Act of 1933 created the Farm Credit Administration, to lend money to cooperatives on highly favorable terms.

The Robinson-Patman Act of 1936 exempted cooperatives from the prohibition that forbade other businesses to pay rebates and discounts.

The AAA Act of 1935 called for "recognition and encouragement" of cooperatives—and this has been widely interpreted in Washington to mean "preference" in the purchase of commodities for the government and in the sale of surplus war goods.

The AAA Act of 1938 authorized the Secretary of Agriculture to help cooperatives get special rates for the transportation of products.

The Securities Act of 1933 declared in effect that cooperatives could sell their securities without the formality of obtaining SEC approval.

Section 101 of the Internal Revenue Code specifically exempted cooperatives of farmers or fruit growers from any payment of Federal income and excess profits taxes.

These are a few of the favors that Congress bestowed by law upon cooperation. They are by no means all. They do not include such special rulings as that which permitted the co-ops to ignore established minimum prices in the days of NRA, and that which more recently has given them full permission to break through the ceiling prices of OPA.

Nor do they take into account such extra-legal privileges as are extended by Washington bureaucrats who brazenly say "To hell with the law"—do what you please. You undoubtedly saw the recent report of a hearing before a Senate committee in which it was read into the record that the deputy administrator and general counsel of REA had said just that, in so many words—though beyond the verbal spanking that was given him by Senator Smith there has been, so far as we know, not even a reprimand of the man who made the remark.

Such flouting of the law is, we believe, all too common.

The result of all these legal and extra-legal favors is that the cooperatives have grown at tremendous rate. According to a recent report by the Farm Credit Administration, there were 10,450 producer cooperatives active in the 1942-43 marketing season. They had 3,850,000 members, and they did $3,780,000,000 of business—a gain of 33.1 per cent over the season of 1941-42.

The great majority of these cooperatives are little local groups of producers, but among them, during the past ten years, there has come into being, under bold and adventurous management, a new type of association that is known as the super-cooperative, or the cooperative of cooperatives. These super cooperatives are no longer satisfied with operations in the simple lines of buying and selling. They are engaged in manufacturing of many kinds, in milling and processing, in oil well drilling and petroleum refining.

Mr. A. G. Black, former governor of the Farm Credit Administration, has said: "In the post-war period it is entirely possible that farmers' purchasing cooperatives will extend their activities even further back toward the sources of supply of their raw material . . . may become large manufacturers of farm machinery . . . may even go so far as to own their own steel plants and the coal mines to run the steel plants."

He was right, except that the expansion has begun even before the end of the war. In various parts of the country, cooperatives have recently bought coal mines. They have bought farm machinery factories — in order to get historic priorities for steel.

They own grain elevators, flour mills, coal and lumber yards, packing houses, stores, printing plants, newspapers, telephone companies, banks, insurance companies, undertaking establishments—it is becoming difficult to find a line of endeavor into which they are not moving.

And how has all this been done?

Largely because exemption from federal income taxes has permitted these cooperatives to pyramid their earnings year after year; to expand their capital and reserves in a way that is denied to tax-paying independent enterprises.

Here, for instance, is the Farmers' Union Grain Terminal Association of St. Paul. It started not quite six years ago with $30,000 of borrowed capital. It made money each year. It paid no taxes. And at the time of its annual meeting, last fall, the management announced that the cooperative had a net worth of $4,300,000, reserves of $1,051,000, assets of more than $23,000,000, and a profit for the year 1943 of about $2,000,000. A private grain elevator company that made $2,000,000 in 1943 would be paying to Uncle Sam this year about $1,500,000. The Grain Terminal Association is paying nothing at all.

Nor does this cooperative follow the old cooperative principle of returning its profits to its members in the form of cash dividends. Instead, it gives them stock in the company, at $25 a share and paying about three per cent interest. Then the cash profit is added to

the capital structure to buy more elevators and other facilities from competitors who are being put out of business. That is the present-day method, used by the super cooperatives, to grow rapidly.

Here is another super cooperative—the Consumers Cooperative Association of North Kansas City, Missouri. By its own printed statement, it owns today $8,000,000 worth of oil wells, refineries, feed mills, canneries and soy bean plants. Its common stock is in the name of little local consumer cooperatives. Its earnings are pyramided, of course; and, needing still more capital for its plans to expand into the international oil field after the war, it is now offering to the public preferred stock—four per cent, non-cumulative, non-voting—at $25 a share.

Here is a note that will interest and surprise you. A cooperative may issue stock in its enterprises without any of the formality, now required of all other business, of obtaining the approval of the Securities and Exchange Commission. You will find in the Securities Act of 1933 a provision expressly exempting cooperative securities from SEC scrutiny and supervision.

There are two forms of the super cooperative. There are many more. They have come about because of the tax exemptions, the special privileges, the favors that have been granted to little local cooperatives of farmers and fruit growers, which have been stretched and extended until great empires of business have been created in the name of cooperation.

They say "We cannot be taxed. We have no profits. We have only savings or net margins that belong to our members."

But search as we will, we can find no difference between the profit dollar of private enterprise and the so-called savings dollars of cooperation. Both are made by the same processes of buying and selling goods and services, and it is our firm contention that the existence of a profit is determined by the way it is earned, not by the disposition that is made of it or by the question of whether the owner is a corporation investor or a cooperative patron.

I leave it to you to judge whether this trend toward socialism should be permitted to continue to the day when all business in the United States will be taken over by cooperation and by Government-owned businesses to the day when you and I and the millions of big and little businesses that have made this Nation will be abolished and the cooperative commonwealth will actually come to pass—the cooperative commonwealth which the Vice President of the United States has hoped, in print, would be accomplished by a bloodless revolution.

In the Senate, not long ago, Senator Vandenberg of Michigan expressed the opinion that there were both legitimate and illegitimate cooperatives, and Senator George of Georgia said, "There are some of them that ought to be examined. . . . They have become nothing more or less than business enterprises."

I hesitate to put ideas into your heads. But the truth is that there is nothing to prevent any enterprise which does business with farmers from changing its organization to that of the super cooperatives. It is only necessary to have some little local farm co-ops hold all your voting common stock; then your investment stock—your preferred—paying up to the 8 per cent which the cooperative law permits — and you, too, can declare yourselves exempt from Federal income and excess profits taxes, and get away with it! And after that you can refinance your operations without yea or nay from SEC!

I have talked much to you about the cooperatives and their tax-exempt status. It sounds, I know, as if we were against the cooperatives as such. Let me say here and now that we are not against cooperation. If the cooperatives can compete on equal terms with independent enterprise and do a better job, then they should dominate the business field. But that competition must be on equal terms — without Government subsidies, without Government propaganda, without Government loans on favored terms, without any of the special privileges and special favors that the co-ops now enjoy.

Our position regarding the Government-owned businesses is similar. If the people themselves—not the bureaucratic or the politicians — desire that Government remain in business, in competition with independent enterprise, then we cannot stop it under our system of free enterprise.

But again we demand that these government corporations and enterprises be treated exactly the same, in every respect, as your business and mine—that their financing be fully and honestly paid for, that they pay their just share of taxes, that they submit to the same regulatory rules as competitive enterprises in private ownership.

As things stand today, however, there is no such honesty or equality. Government corporations that produce electric power at TVA and Bonneville pay no interest on the money that has been invested by the Government—your money and mine. And on all their various enterprises they pay no Federal income and excess profits taxes.

The Government corporation that makes rum in the Virgin Islands pays no federal tax. Government corporations that are running railroads at Panama and in Alaska, that are engaged in money lending, housing projects, farming enterprises, transportation, manufacturing and all the rest are all tax free.

The Rural Electrification Administration and all its cooperative subsidiaries are exempt from Federal taxes.

There is no reason for such tax freedom. The utilities—your companies—are actually tax collectors for the Government. Your rates are based, in part, on the taxes you must collect and pay, and on the cost of financing power plants and lines.

No honest yardstick can ignore these charges—yet the Nation has been sold the idea that you are charging exhorbitant rates while the Government and the municipal power plants are producing power at the correct costs.

Government in business pays no taxes. It devours the taxes paid by others. It destroys the source of taxes.

It is the belief of the National Tax Equality Association that all Government businesses should be made to pay their just share of the taxes.

No business man can afford to ignore the issue. Never in our lifetime will the Federal budget be less than 20 billion dollars. Every source of taxes must be tapped to raise that money and, if for no other reason, private enterprise must be kept alive to pay those taxes. Only with equality of taxation, with every person and every business paying his just share, in accordance with his means, will remedy the situation.

Leading the battle for that equality is the organization of which I am President. The National Tax Equality Association was organized less than a year ago by a group of business men who recognized the problem and dared to try to do something about it.

By its charter, the National Tax Equality Association is a coordinating

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Farm Extension Plans—The Positive Approach

By G. V. Rork

President, Northern States Power Company of Wisconsin

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 6, 1944

I ASSURE you that this paper, which, according to the program, is to cover *farm extension plans—the positive approach*—is not prepared to set up any ideal extension policy, nor is it intended to survey the field of engineering applied to rural development. I am not certain that I know just where this title line originated, but, regardless of that, it affords me an opportunity as one who has been interested and active in the advancement of electricity on the farm from the close of "the War to end all wars," until now, and I feel certain of my continuing interest for some time to come, to express my present views on the problem of rural electrification as I now see it in the Mid-West.

I was very happy to have been one of a small group in the State of Wisconsin, with whom Mr. Grover Neff, (who has appeared on your program many times in the interest of rural electric development) and others, saw and believed as the "Roaring Twenties" came up, that there must be, not only a *rapid* but a *consistent* development of electric farm lines, if that "other major industry" of this Nation was to advance and hold its place in our national economy.

From the beginning it was an exceedingly difficult struggle. Farm lines then were but an extension of urban distribution systems. Farm customers then were often rural residents seeking to get electricity only so that they might "keep up with the Joneses" who now had purchased a new automobile! Yet through all those experiences and through the years there constantly came new faces, new ideas, and new strength. It was not difficult to get Universities and Agricultural Colleges interested. It was the ideal demonstration vehicle for them, because it spoke of improved standards of living, because it spoke of a new era in farm conveniences.

It is no wonder, then, because of the many difficulties, that in those early days rural electrification split sharply into at least three distinct phases:

(1) Management did not, in general, believe that a farm program ever could be developed that would stand on its own feet.

(2) The construction phase of farm extension plans may have received an unwarranted amount of attention. It may be that the construction phase received *defensive* attention in an effort to make construction so reliable through high standards of design and materials that service costs and maintenance could be held to a minimum and deferred as long as possible.

(3) The educational phase of farm extension plans quickly caught the eye of Agricultural Colleges and educational groups. Their ideas ran the gamut of the imaginations of those participating, but more attention was placed on the development of extensions rather than on the development of applied practical uses.

In the very early 1920's, in addition to the usual and obvious functions of electricity, the Wisconsin College of Agriculture at its University referred to the economical use of the so-called coffee grinder type of feed mill. These mills, indeed, were small, but they were automatic, and attracted the attention of manufacturers of farm equipment so much that their use became practical, at least in the sharply reduced sizes.

At the same time, in the Mid-West, manufacturers of silo fillers were attracted to demonstrations at the same College in the use of small, motorized silo fillers. Their use was practical, and the results much improved from the standpoint of the ensilage produced.

It is interesting to note that Mr. J. P. Schaenzer then spoke of the *electrical brooding of baby chicks, electrical dairy barn ventilation, electric soil sterilization, electrical soil heating, photoperiodism, methylene blue milk testing equipment, electric fences,* and *electric Canadian thistle exterminators.* Those were uses in addition to the *ordinary* functions of pumping water, milking cows, barn and barnyard lighting, to say nothing of the certain positive approach to the use of electricity in and about the farm home.

In an E.E.I. address in 1941, an executive of the American Gas and Electric Service Corporation referred to the fact that in May of 1915 there was published a detailed and illustrated description of a number of electrical applications on a large dairy farm in Ohio, "including the lighting, of course, the milking machine, the sterilizer, pasteurizer, incubator, a high pressure installation for encouraging plant growth, and, believe it or not, an *Electric Range* in the farmhouse!" This third phase seems to have received early attention, so early, in fact, it is strange indeed that it has not taken its place with the rest of the utility business.

Most certainly, successful developments in commercial equipment, small power uses, and the application of electricity for the uses of man, have passed through the same timorous periods that rural electrification has been passing, yet the utility industry very properly approached all of these problems with much more vigor than the problem of electricity on the farm was pursued.

For instance, let us consider the startling developments that have taken place in the residential use in many urban areas served by the utilities of this Nation. We find that there were many companies at the close of that war "to make the world safe for Democracy" that came up with an average kilowatt-hours per average residential customer of less than 500 kwhr. I doubt if there were any figures at that time other than a few isolated instances that gave any clue to what the kilowatt-hours used on a farm might be. However, today, there is very definite information as to what the kilowatt-hours per average residential customer in the United States is at the present time. The figures for the year 1943, reported by EEI, were 1070 kwhr. This is indeed a far cry from the figures of less than 500 kwhr found in so many companies in that early day. While the Nation's average per year is 1070 kwhr, be it remembered that there are a great many companies throughout the Nation that have averages far in excess of the national average. In my own Wisconsin Company, located in northern and western Wisconsin, the average is 1332 kwhr.

Your EEI Report for the year 1943 indicates that the kilowatt-hours per farm customer East of the 100th Meridian increased from slightly over 586 kwhr in 1926, when records became available, to 1481 kwhr in 1943, and for farms West of the 100th Meridian the kilowatt-hours dropped from 5882

in 1926 to the average figure of 3683 in 1943, due to the effect of irrigation and the addition of new customers between the two dates referred to. In any event, the absorption of kilowatt-hours both East and West of the 100th Meridian has indicated that the absorption per customer or the absorption in rural areas, as the case may be, has increased tremendously.

So much has farm electricty advanced that the pace indicates it is worthy of much more attention of a positive character, as I see it, than it ever has received. Mr. Grover Neff, in an address before a group of engineers, pointed out the difficulties through which the development of electric service has progressed. He divided time of development into three periods of 20 years each. The first he called the Period of Development of the Generating Station, or the Direct Current Period. *Electricity on the farm did not develop far during that time.* The second period was divided into the Extension and Development of Alternating Current and Transmission Lines. Electric service *did* reach *some* small communities and rural centers in those years.

The third period shows the development of the use of electricity in urban areas and its extension to small communities and farms. Apparently this period began as the Roaring Twenties sent up their first glamorous rumbles and high notes. The predecessor to this Institute created the Rural Electric Service Committee, and attention began to focus on the difficulties to be met in getting electricity on the farm. This would seem to be a good time to go back and look at the three distinct phases to which I referred a moment ago.

The first, you will recall, was the negative attitude of Management. I think it is a fair statement to make that Management, *in general,* felt that the responsibilities were great in getting a whole cross-section of our people interested in farm electrification, only to find that the cost of development was heavy, the probabilities of a return not present, the probabilities of poor service were great, so great, that they could be answered only through heavy, reliable construction. I believe that Management, in general, realized that farmers *were* desirous of reaching a plane of existence certainly as high as industrial workers. Management *was* aware of a great amount of publicity in the early twenties being piled upon farm blocs and farm groups, and yet, in general, I believe that Management saw only the *probabilities* affecting the limited return that might be present in this investment and the conservative character of farmers as a class. I believe this latter view very seriously affected early judgment. Many felt that conservative farmers, resourceful in their own strength, would not readily accept nor adapt themselves to the application of electricity to agriculture.

I do not wish, by any means, to be critical of the judgment then applied, and only point out that the changed conditions of today, brought about in the last eight to ten years, have completely eliminated many of the views which then seemed to be, and I believe *were,* appreciable and real.

The era through which this great development has passed is not a great division of time, but certainly it has had definite, notable characteristics of progress. I think that Management, today, looks on the farm business as a part of all its business. I think Management, in general, believes that its Company and its Industry in the area where they hold themselves out to serve, do understand that while the amount of capital invested in farm service may be small compared to the total *investment,* it may be, as so well expressed before your Commercial Section in April last, that the less than 10 per cent of the total money invested by a Company in the farm electrification business may very well be one of the most important investments a Company has made, and its effect be considerable on the remaining ninety-odd per cent of the total investment. This view means that the economics of our country are shifting more and more to an area basis, to a community basis, to a basis which includes very definitely the inter-dependence of employment in industry and the production of food and materials by the farm for those who work and serve.

It is increasingly obvious that the question, today, is not one of whether the farmer *gets* electricity but rather the positive approach to the means by which he can utilize electricity on his farm. I earnestly believe that we have passed through the first phase of these three vexing problems. This phase, today, has been dissipated completely in the necessity that Management now see its way clear to cooperate with every group interested in bringing electricity to the farm, and that they, with these groups, earnestly apply themselves to the end that the functional use of electricity by all farms will help to raise the standards of living of a great part of our Nation. In so doing they will have added to the probabilities that all men can work, and must work, in the production of goods and services to serve the postwar and peace-time world. It certainly is true that electricity is going to reach the farmer, so true, that today it is not a question of the farm business immediately standing on its own feet, as it is one of developing the farm business to a point where it ultimately will stand on a firm footing.

The second phase of rural electrification, which I sometimes believe has received an inordinate amount of attention, was that of construction. I do not wish at any time to infer that there is not a need for applied engineering on a sound basis to determine the type of construction and voltage requirements for farm lines. But I do wish to add, emphatically, that the loadings on farm lines from climatic conditions are light, so much so that many lines built since 1935—which were then said to be so light as not to withstand climatic hazards—are still in service, and have given a good account of themselves. I think, then, that we can dismiss the construction phase by the clear statement that a continuous study should be aimed at developing and producing standards of construction that will permit rendering reasonable service at low cost so as to still further assure the early advent of sound operations on the part of rural electrifications.

It has been my privilege to be associated with the Committee for Economic Development since its origin. I have seen this extensive activity, embracing the best industrial and commercial minds in this country, arrive at the conclusion that "jobs in industry at high levels of production" are certainly one phase of postwar planning that must be present, but just as surely as that conclusion was reached, it was also quickly determined that the production and distribution of food by agriculture was just as important and just as vital as the statement of "jobs in industry at high levels of production!"

Through meetings with C.E.D. throughout the Nation, and especially in the Northwest, it has been more and more apparent that the thinking of our country *is* coming to be centered around the community and the trade area basis, and that urban centers realize that they long have been the heart of their trade areas and that they have carried the load in en-

tertainment, shopping, service trades, education, health, medicine, surgery, and all the things that make up the Ship of State which they represent. These urban centers realize that if the Ship of State represented in their communities is to go forward, then they must bend and continue to bend the laboring oar and that no longer can each of them pull its oar in any other direction than that which will carry them all forward. This means that the urban centers are interested in the successful development of the rural areas. That means that the small town is interested in everything that will lighten the chores of the farm, increase the agricultural income, and, most of all, raise the standards of living for our farm families.

To all of this, electricity on the farm does furnish ample reasons why we should consider the third phase of the early obstructions that deterred the extensive use of electricity on the farm. But, you will say, there has been much done to bring these very facts to the attention of our farmers. You also will say that manufacturers as well as utilities have organized developments set up exclusively to further the electrical development of rural areas.

It is true that there were many experimental lines built throughout the country. One of the most noteworthy is the Red Wing Line, constructed near Red Wing, Minn., and built under the sponsorship of a State Committee in Minnesota, known as "The Relation of Electricity to Agriculture." This Committee was organized late in 1923, and energy was turned onto this line by my Company the day before Christmas, in 1924. It is believed to have been the *first* experimental rural electric line in the world. You are, or easily can, become familiar with that project. But at the moment, I would call your attention to the extensive efforts that were made to provide adequate wiring systems, useful equipment, and ample demonstration, to convince the farmer of the advantages which were his through the use of the kilowatt-hour as his best hired man. In spite of all the efforts that were made and the elaborate use of the equipment furnished by generous manufacturers, it has been found that many of the originally connected farms decreased their use after initial interest had lagged. It likewise is true that some of the better farms, under good management, on the same line, are today continuing their economic use of the kilowatt-hour because they have not permitted their interest to lag and have replaced the equipment of 1924 with the most modern equipment obtainable.

The positive approach to farm extension of electric service, in my opinion, is, therefore, not a question of whether electricity can come to the farm, or whether the construction is of *this* or *that* type. In 1941, Mr. H. M. Sawyer, of the American Gas and Electric Service Corporation, in an address in Chicago that spring, supported the whole field of the use of electricity on the farm in the following statement:

"All of these remarks have indicated the needs for electric service for one purpose or another on the part of rural customers, and all of them have indicated the presence of markets for increased sales of energy which can be developed by resourceful sales effort, by cooperation with dealers in electrical equipment, and with Agricultural Schools, County Agents, and the many other persons and groups in and out of Government circles, who are interested in the problem of rural electrification and the broader problems of rural welfare and prosperity."

Mr. Sawyer drew attention to the notable fact that EEI, for the *first time in its history*, devoted some time to a separate, special rural sales conference for these purposes. I join wholeheartedly in support of Mr. Sawyer's views, and believe that the solution of the third phase of rural development mentioned earlier can be found in two or three simple policies:

1. Extension rules should be reviewed carefully and each adapted to the composite view developed through electrical surveys in the area supplied. These rules should not only be liberalized, but simplified, so that sales engineers and farmers, alike, might understand them. They shou'd be designed to leave ample money in the hands of the farmer for proper wiring installations and the purchase of suitable equipment.

2. The rate structures should be reviewed carefully, and all complicated calculations not necessary to the sound application of the rate should be eliminated, so that farmers and users of electricity in rural areas could be assured that they understand simple and reasonable rate structures.

3. The matter of education relative to new and old uses should be continued. I have had at least one discussion with a man prominent in rural electrification matters, to the effect that associated utilities could very well afford to own and operate a farm with the very definite object in mind of continuing the study and demonstration of the application of electricity on the farm. One rural sales engineer with whom I discussed this subject, stated frankly that the positive approach to farm extension plan lies in foresight on the part of Management, long-range planning, simple means of doing business with the farmer, and, above all, faith in the future of the farming industry. He added: "It is the most important industry I know about." And added the colloquialism: "No farms, no eats; no eats, no nothin'."

I believe that my appearance on this program may serve one good purpose, at least, if it has brought together the words and thoughts, which, among others, Messrs. Edwin Vennard, Grover Neff and H. M. Sawyer, who have appeared before you and urged you to consider seriously those facts which are so obvious in the report made to you recently by EEI, and who over the years have brought to your attention the essential facts relative to electrification of the farms of this Nation. These had to do with present farm surveys, possible customers, and potential markets for rural electrification in about 5,000,000 unwired dwellings in rural areas. It is recognized, of course, that the problems of electricity on the farm vary from coast to coast and from Canada to the Gulf, but the principles involved in selling the customers do not vary to the same extent. The farmers of our nation continue to be resourceful, active men of the soil, daring the elements at every turn, staking their security as collateral for another crop, and seeking every way presented to them that will help them solve their problems in a practical manner.

I have not endeavored to speak of specific applications, or uses for electricity on the farm, but would rather have you believe that the application *you* know about is the one to which simple, straightforward, understandable business methods *can* be applied. If that is the case in your instance, then, most certainly, I congratulate you on your foresight and human understanding. If it is not the case, then I urge upon you as Management to consider, always, area and community-wide planning, with long foresight and considerable faith that electricity *can* assist agriculture to provide food and sustenance for men work-

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Competition Demands a High Order of Company Teamwork

By Kinsey Robinson

President, Washington Water Power Co.

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 6, 1944

TODAY we stand on the threshold of victory in the greatest war in the history of this republic and at some future date, undetermined but inevitable, we shall all be confronted with post-war and peacetime problems of the first magnitude.

The problems of the electric utilities will become even more active in the era of peace. Installed capacity contributing to the public supply increased over 2,800,000 kw during 1943 and during the past five years generating capacity has grown over 10,000,000 kw. This latter increase alone is greater than the entire capacity of all plants contributing to the public supply at the beginning of World War I.

At the close of this war a substantial portion of the present power capacity will loom over the industry as a gigantic problem, possibly threatening the stability of the individual operating utilities.

The splendid performance of the industry in meeting wartime demands needs no eulogy. Power was never too little or too late. It is to the eternal credit of the industry that defense needs were anticipated and installations completed for the sole purpose of assuring adequate power to make the tools of war. But in meeting those needs we, of course, went beyond our projected peacetime programs so that we shall find ourselves, when the last shot has been fired, faced with most serious problems. The utility industry will be all dressed up and it will behoove it to have some place to go.

Ours has always been a competitive industry. Almost every service we perform is amenable to competition and if such competition has not manifested itself it has been because the type of job we have done has obviated it. But in every case it has been a possibility.

Soon, however, we will be confronted with a relatively new form of competition—a competition that is difficult to combat but which we can and must dispose of. That competition is excess generating capacity—excess in the sense that it is greater than the normal.

The investment which the industry will have in excess power production facilities will undoubtedly impose a most serious problem. Also, we shall probably experience continued pressure to reduce rates and perhaps to meet the competition of other forms and sources of power. To meet this situation we must continue to operate on the most efficient basis possible.

I submit that one of the major factors toward the continued improvement in operating efficiency is a high order of company teamwork, the development and intensification of departmental coordination.

Every organization, and the electric utility is no exception, must have plans and programs that are flexible to meet the requirements of competition.

We are now in the 40 hour or more per work week—and this work week may be lessened after the war. Therefore it is highly essential that we obtain a maximum load factor in our employment, that we strive for the ideal situation wherein every employee is productive at all times.

Departmental coordination has been defined as the orderly arrangement of group effort to provide unity of action in pursuit of a common purpose. This working together requires the use of the full capacity, mental and physical, of each individual, complete operating order, and adaptability to meet the changes in surrounding circumstances.

Management is faced with the proposition of determining how a common understanding, a full loyalty and a clear discharge of duty and responsibility can be achieved. Human friction, like mechanical friction, must be discovered and eliminated. Line and staff relations must be carefully considered and it is highly important that arrangements be made to extract the full value from staff service.

Coordination within an organization must be both vertical and horizontal, affecting alike the staff and the line departments. The problem, in this connection, is to arrange the organization so that the relative freedom of action required by each shall be so conditioned that all operations will coordinate effectively and efficiently with the general plans. The line and staff definitions of authority and coordination must be so worked out so that at each point there is complete coordination with the general plan and at the same time the freedom of action requisite for the greatest efficiency.

Industrial indoctrination plays an important part in departmental coordination. In the utility industry this requires a thorough knowledge of the services rendered, of production and distribution, of sales and accounting and in all the other phases of the business so that every member of the organization will become imbued with enthusiasm for the pursuit of the common interest. In a larger sense it requires an understanding of the objectives and policies, the delegation of authority and the correlation of functional duties. It seeks to establish a company understanding to the end that a common faith and understanding may be created and maintained throughout the organization.

Every electric utility can put these principles into practice to good effect. There is, for example, great value to be derived from close coordination of the engineering and sales departments so that a nice balance can be maintained between the requirements for service and the facilities that must be provided to meet the demands of the customers. Excess distribution plant is uneconomical and sales that cannot be profitably serviced are harmful from the standpoint of public relations—close coordination will prevent uneconomic conditions from arising.

Close coordination between the accounting, stores and operating departments will result in economies and greater efficiency through the elimination of any possible excessive record-keeping.

Important economies can be effected through correlating the procedures of the power production and the plant maintenance departments. By planning ahead maintenance work can be done on generating equipment at times when the loss of such equipment will not be felt.

Cooperation between the operating and engineering departments makes possible a program of preventive maintenance that will cut down interruptions while at the same time reducing operating costs. Established methods which tend to harden into rigid rules under conditions of departmental or divisional isolation can be revised to meet changing conditions and to take advantage of new developments.

You may be interested in some specific instances as examples of departmental coordination made in our organization and the savings that were effected. In the process of merging our transmission and distribution departments all line crews were assigned to the various operating divisions, enabling us to eliminate the position of line patrolman, work of this type now being performed by members of the division line crews.

Collaboration of the engineering department and the division line crews has resulted in reducing the average crew from a six-man crew to a five-man crew.

The correlation of the experience and suggestions of various departments has enabled us to redesign our bill procedures, taking full advantage of machine billing, to effect economies and secure greater efficiency.

In general, we have been working to eliminate the work vacuums that are bound to occur when departmental or divisional isolation exists and specialists multiply. Every department or division feels free to call upon any other department or division for manpower and ideas, so that there is a constant flow of these ingredients throughout the organization and a high employment load factor is realized.

I have discussed some phases of departmental cooperation but I have not attempted to exhaust the list of possibilities in that field. The management of every electric utility should give serious thought to the developing of new applications of the principle of team work.

The biggest single job of the industry in the post-war period is going to be the selling of kilowatts—and these kilowatts should be channeled to the kind of loads that make money. Generally speaking, the residential business is a profitable load. The average annual residential consumption for the industry in 1943 was 1070 kwhr, an increase of 48 over the previous year. Pent-up demands, released by the end of the war, will result in a sharp increase in this figure but we in the industry must not be content with this natural surge, we must make every effort to supplement and amplify it. To do this we must encourage close cooperation between the sales department and every other department in the company. Power plant operators, bookkeepers and cashiers can all be indoctrinated with sales enthusiasm. This will result in boosting the sales of kilowatt hours per residential customer, reducing the average rate and increasing the annual earnings per residential customer—and this is the sort of operation that will insure stability and continued existence for the private electric utilities.

During the war there has been considerable construction of generating stations by governmental agencies and much of the energy generated at these plants has gone to war industries. This power will be foot-loose and fancy free as the war industries subside. If we can demonstrate that we can merchandise that surplus power better and faster than any other agency, then the private utilities will be entitled to favorable consideration in the plans for its distribution.

But we must not lose sight of the fact that despite the much publicized program of hydro expansion by the federal government during the past few years, the private utilities have installed twice as much generating equipment as the federal agencies—so that a large portion of the surplus power that will be available after the war will be our own. We must plan now to move it to the customers and the best way of doing that is by good teamwork in every organization.

Tax Equality

(*Continued from page* 215)

service doing research in the whole field of taxation and related subjects in the interest of protecting independent enterprise. It is a clearing house of information on tax inequalities, government subsidies and preferential treatment to the competitors of private business.

The members of the Association are individuals, companies and organizations, and it represents today more than a million little and big businesses over the United States. Its Board of Directors represents small business—for little business is in the greatest danger of extinction at the hands of these preferred businesses.

The Association has strong departments of research and publicity. It employs legal talent and has a Washington counsellor. It is studying all tax inequalities, of every kind and nature, though its particular attention right now is being directed toward the cooperatives and government businesses because, as I have said, those two are growing fastest and preventing the greatest danger to private enterprise.

Our task this year is to make the public aware of the situation as it now exists. We are definitely making progress in that direction.

By means of a fast-growing mailing list we are putting our published material into the hands of many thousands of businessmen over the United States.

We are setting up state and regional organizations to bring our program closer to individuals everywhere. In newspapers, trade papers and general periodicals you will see more and more about the work we are doing. Fulton Lewis, Jr., and other commentators are being told our story that they may tell it to their readers and their listeners. By autumn we shall be using radio to reach that far-flung audience.

We take it as a great compliment to our beginning efforts that many men, in many lines of business, have recently expressed themselves as highly pleased and highly satisfied with what we are doing.

Research experts, connected with other businesses, have told us that our approach is sound. Business men in various industries have voluntarily come to us with offers of support. Interestingly enough, many farmers, members of cooperatives, have told us that we are right and that they agree with us. We have received checks to support our program from cooperative associations. Many high executives of your own field have written us and phoned us long distance and come to see us in Chicago because they have said that we were doing for them what no one has done before.

That pleases us, of course.

Human Wants and What We Are Going to Do About Them

By R. C. Muir

Vice-President, General Electric Company

Address before the Annual Meeting of the Edison Electric Institute, New York, June 6, 1944

THE basis of any economic policy is the satisfaction of human wants. Throughout history the struggle of man has been to attain "Freedom from want of the essentials of life—food, clothing, and shelter." Technology has shown us the means to attain that freedom for all men and has further opened the path which leads to the satisfaction of wants in the luxury classification, or a more abundant life.

The degree to which these further wants, which are unending, may be satisfied for the whole people is proportional to increase of real wages, which can be defined as the ability to obtain more for the day's work, whether it be things to eat, wear, or live in, or whether it be education, travel, amusement or health—and we may include some of the indulgences which people want but which are not so good for the health.

Real wages, that is, what one can buy for a day's work, can increase only through increase in the productive power of labor—higher efficiency through specialization and technical improvement. This increase in productivity per man hour has been estimated to average 2½ per cent per year during the present century. We here are engaged in one of the technical industries, the electrical industry, the one industry, more than any other, which has in a short 50 years, made this history-long objective "Freedom from Want" possible of realization.

Real wages must increase, real wages can increase—through placing more power at the disposal of each workman, through improved machines, improved methods, new materials, and more efficient production and distribution of electric power.

It is not my intention to burden you with a lecture on economics, but I wish to make the point that, if we are to satisfy more and more of the human wants, we must have a continuing increase in real wages and this can be brought about only through science and engineering, and their application to products and to the manufacture of those products.

I do not propose to discuss government's attitude toward industry, which must be favorable, or our social problems, which must receive earnest consideration and appropriate action, if we are to be able to take advantage of the benefits which science and engineering offer.

It is well to bear in mind, however, that these simple economic principles must be understood by those who are making our laws and dealing with social problems, if these attitudes and social laws and measures are to be sound and adequate.

It is my intention to outline a few of the unsatisfied human wants which are rapidly accumulating during this war period and with which we will be confronted in the postwar period. We will have millions returning from the Armed Forces, and we have many more millions who have been supporting the Armed Forces on the home front, and they will have funds with which to buy the things they want.

Probably the most apparent of all human wants is good housing. In his recent address before Parliament, which was broadcast throughout this country, Prime Minister Winston Churchill dwelt at some length on the subject of postwar housing. He said 5,000,000 new houses were built in the British Isles between the two wars and the British people were better housed than the people in many parts of the United States of America. Their plan is, first, to start immediately and rebuild or recondition the 1,000,000 homes damaged or destroyed by the enemy. Second, to build a half million prefabricated or emergency houses with "excellent baths, gas or electric kitchenettes and refrigerators—walls (which) carry fitted furniture—chests of drawers, hanging cupboards." Third, to build two or three hundred thousand permanent houses by the end of the first two years after the defeat of Germany, and to continue this program of building, which will guarantee steady employment for long periods.

And so it is in this country, we want new homes—1,000,000 or more per year for many years is a very conservative estimate. There may be an increasing trend to prefabrication, but whether prefabricated or built on the ground, each home will want electric service: a central heating plant, an electric refrigerator, washing machine, ironer, range, vacuum cleaner, toaster, clocks, electric lighting, and other electric appliances. An increasing number will want the electric dishwasher, electric garbage disposal system, electric water heater, and electric blankets. All will want radio, and an increasing number will want television.

These are wants we can satisfy with prewar developments. But the users, having a taste of the better life that these electrical appliances offer, develop new wants for each device and we see no end to this trend. The automatic refrigerator is the best salesman for automatic toasters, coffee makers, washing machines, dishwashers, water heaters, and ranges.

The Electric refrigerator is usually looked upon as the most nearly perfect of all electric appliances, but a critical examination reveals vast fields for improvement. Consumer surveys show that some satisfactory method of automatic frost control is one of the most urgently needed improvements. Improved means of humidity control is a definite need. One outstanding consumer desire is for a household refrigerator which offers greater accessibility to the food. In a recent questionnaire sent to nearly a quarter of a million consumers, we showed a designer's concept of a refrigerator with revolving shelves. The need for easier access to the food is shown by the fact that 68 per cent of the consumers voted for this revolving shelf model.

The most promising development on the food front is frozen foods, and the various means for home freezing and storage. Many look upon the frozen food cabinet as the second refrigerator in the home. Others believe that the

household refrigerator will take on frozen food storage as an added compartment. Whatever form the frozen food cabinet takes, frozen foods will make a substantial contribution to better nutrition and better living for millions of people.

The satisfaction of one want leads to a new want.

Only 12 per cent of American families are now enjoying the low cost luxury of electric cookery, but over half prefer electricity.

Ninety-nine per cent of American families have yet to enjoy the time and labor saving advantages of an electric dishwasher and an electric garbage disposal unit. Yet the average consumer is willing to spend 25c a day for a dishwashing device and 13c a day for a garbage disposal unit. At this rate the dishwasher and disposal units would pay for themselves, at prewar prices, in two and a half years.

The warmth and lightness of an automatic electric blanket are unknown to 99 per cent of the people. But its advantages have been widely advertised by word of mouth during the years when this product has not been available. Today 25 per cent have it on their postwar buying lists.

A home frozen food cabinet was practically unknown before the war. But consumers have read about this new way to better nutrition, with all of its advantages in convenience and economy. A fourth of them are looking forward to buying a frozen food cabinet in *addition* to the household refrigerator, and an even larger number want to see ample frozen food storage facilities incorporated in future models of household refrigerators.

These wants can be satisfied by prewar developments which, as indicated, will be made more serviceable and attractive through the introduction of new materials, new knowledge, better design and manufacture. There are possibilities, of course, of radically new products or applications of products which may change overnight our daily living habits, although I am one of those who expect these to develop at a slower rate and only after exploitation and education.

Of these new possibilities, the heat pump, or reversed refrigeration cycle, for the heating of residences and commercial buildings, as well as cooling them, seems to be very attractive.

From the standpoint of conservation of our natural resources, that is, the conservation of fuel, a reversed refrigeration system using equipment we already have in hand will do the job more efficient.y than we are doing it at present in a large part of the country.

We can assume that the average good fuel burning steam electric station is delivering to the home in the form of electrical energy approximately 25 per cent of the heat value of the fuel burned, and under favorable condition we can assume that the reverse refrigeration cycle will give us a conversion factor of approximately 3, which means that we get heat in the home equivalent to three times the electrical energy required to operate the refrigeration equipment. Thus through equipment already available we may obtain, in the form of heat delivered in the home, approximately 75 per cent of the heat value of the coal burned at the central station. This is somewhat beyond your overall realization in coal burning home heating plants today, and if you add to that the saving of coal deliveries and ash removal and other inconveniences, you can begin to see some of its possibilities.

The better fuel burning steam electric stations today have even higher efficiencies; in fact, they convert approximately 33 per cent of the energy of the fuel into electrical energy, and we can look forward perhaps to stations which will convert as much as 40 per cent of the heat value of the fuel into electrical energy, so that as time goes on the use of electrical energy for heating becomes more and more attractive.

However, from the economic point of view, we have not yet designed and manufactured equipment which the average person could afford to purchase for his home. With our accelerating knowledge of how to design and manufacture for low costs, it seems none too early for us to begin to investigate some of the possibilities of such a heating project.

It would help solve the unsatisfactory load factor of summer air conditioning and it would give us a tremendous increase in the integrated load. From the users' point of view, one electric service for heat, light and power is indeed attractive.

Electric lamps are commonplace, in themselves—but they bring light and life, color and beauty out of the dark. They help to conserve our eyesight, and add to the health, welfare and security of every individual.

Human wants were not satisfied with the campfire, or the oil lamp. Nor are they satisfied with the gloom or glare sometimes obtained with electric lighting. Such conditions are no longer necessary because recent developments of new light sources, new equipments and new techniques eliminated the excuse for such "starvation" levels of lighting, and the future will see human wants in terms of light, satisfied by abundant, cheerful lighting—light that is comfortable, unobtrusive and pleasant. The realm of lighting oversteps the traditional engineering boundaries and enters that of human psychology—in which human prejudices and human emotions must be taken into account; art, architecture, and decoration of the future, are all bound up with the subject of lighting.

Perhaps the most significant lighting development of recent years has been that of the fluorescent lamp, which is no longer new, but whose major contribution to human wants yet remains to be realized. This new light source with all its attributes, has broadened the horizon of lighting service to mankind; has given our industry a complete new perspective in its obligation to bring better light and better sight to everyone. The inherent economy of this new source in the production of both white and colored light, its low operating temperatures, a low brightness and its actual physical shape lends itself to new techniques of installation. So far we have had only hints as to the advanced engineering practice which these new lamps permit and it is not too much to suggest that these lamps will have a profound influence on architectural design and interior decoration. The announcement of the circular fluorescent lamps as well as the so-called "long slim" lamps, which must await peacetime before their final development, will likewise further the coordination of lighting and architecture.

Those who view the future of lamps and lighting with only ordinary optimism foresee an electrical requirement nearly equal, if not entirely beyond the total electrical demand up to the beginning of the war.

The average domestic consumer used 1024 kwhr in 1942. Today his annual rate of consumption is approximately 1100 kwhr. A new all electric home may easily use 5000 kwhr to 10,000 kwhr annually. The want is there—our problem is to satisfy it.

Much has been said about rural electrification, and over 40 per cent of the

farmers (2,600,000) in this country are using power line electric service. Another 2,000,000 want this service and our problem is to create wants to build up each individual farmer's load to a point where he can be economically served. This seems to be feasible. We should look upon each farm as: first, a residence; and secondly, a small industrial customer who produces food.

The farm home is essentially the same as the city or small town home and, therefore, wants all of the electrical appliances and equipment we have considered for the city home. The farm home is more dependent upon modern electrical equipment because it does not have outside service facilities such as laundry, etc., available to the city home

These home services can be built up to represent a potentially great load, but the more important job — one we haven't, as yet, done so well—is the electrification of the farm production plant. The farmer first of all wants dependable, low cost service—reliability is important when one is operating with perishable products. With this service he wants good lighting, a pressure water system, refrigeration for frozen foods, cold storage and milk cooling, brooders, water heaters, feed grinders, milking machines, and numerous other power driven equipment. It is none too easy to keep the people on the farm these days. Electric service will make farm life more attractive.

To the list of inventions which stand out as mile posts in the history of man, the electronic tube must now be added.

Its newness and novelty and its wide use in the present war have stimulated the imagination of the layman, almost beyond justification. I would prefer to look upon electronics as a new tool—something plus, or in addition to that we now have, rather than something that will outmode the brilliant inventions of the past or completely change our way of life.

Frequency modulation broadcasting gives us a new kind of radio reception and opens the field for several thousand additional stations.

Television promises to be the most important great new product of electronics in the postwar period. The addition of sound to sight revolutionized the motion picture industry. The addition of sight to sound in radio will bring an equally great change.

People will want FM and television and the manufacturers will learn how to produce sets in volume and within the price that people can pay.

We can expect electronics to make a host of contributions in the coming era, but the development of the fields already in sight offers fascinating possibilities.

Man's want for health must antedate the beginnings of medical research by many thousands of years. To a greater extent than we ordinarily recognize, the economic well-being of every nation depends upon the general level of health prevailing among its people.

Refrigeration and the preservation of food add to life's enjoyment on two counts: fresh food—in and out of season—and at the same time, healthful food. I have already indicated that there are still many unfilled wants in the home, on the farm, and in our city and factory establishments for an extension of refrigeration in its various forms—preservation of food, frozen foods, and cooling of air and water.

Pure and healthful water supply systems have been a great boon to the health of our people, and in this electricity has played, and will continue to play, a prominent part.

Adequate sewerage systems are a third great aid to better health. From the disposal of waste food in the home and ending with the building of adequate sewage disposal plants—here is a want that must be satisfied.

As an instrument of healing, the X-ray, the electro-cardiograph, and the short wave diathermy machine have become firmly established with the medical profession, but wants are still unsatisfied. For instance it is desirable to record the heart sounds with the electrocardiogram simultaneously with an X-ray motion picture of the heart action. Deep-therapy X-ray units operating at a million volts are already in use, but in the laboratory we have an electron accelerator which produces X-ray radiation at 100,000,000 vo'ts. What this may mean to mankind is a question that will only be answered in the future.

The electron microscope offers new possibilities in the exploration of the unknown and should prove a great aid to medical science.

Electronic instruments are already finding health applications outside hospitals, and physician's offices. The sun lamp, and the germicidal lamp radiating ultraviolet light, will find extensive use for the killing of germs and the purification of air and water.

It is through industry that we satisfy our material wants, and we might say that industry creates our wealth and establishes our standard of living. The broad want of industry is anything that will increase the productive power of labor, which at the same time makes it possible for the individual to produce with less physical effort and under working conditions which are healthful and pleasant. The satisfaction of this broad want gives us an increase in real wages, which is a basic requirement of economic progress.

Specialization, science and engineering, and the abundant use of electric power are the main factors in the satisfaction of this broad want of industry.

In 1919 each man employed as a wage earner in our manufacturing industries had approximately 3 hp of motors at his disposal. Twenty years later, just before the present war, this figure rose to 6½ hp, or the motor power per worker had more than doubled in 20 years. In 1939 our industries consumed 82 billions of kwhr. In 1943, only four years later, this consumption rose to 158½ billion kwhr. How much would our standard of living be raised if the same amount of energy were effectively used in a peacetime year? The process of electrification of industry is far from completed. We should expect a continuing growth of motor power per wage earner.

In the coal industry only 40 per cent of the bituminous coal mined is handled by completely mechanized means.

In the steel industry the average power consumption was lately 200 kwhr per ton. This energy went primary for rolling and handling of steel, for pumping water, lighting the plant, etc. The growing need of high grade alloy steel has more than quadrupled the capacity of electrical steel furnaces and brought this figure to more than 6 million tons per year. Each ton of electric steel requires approximately 800 kwhr, or four times the electrical energy required by the average ton of non-electrically produced steel.

The placing of more electrical energy at the disposal of each workman is a matter of working out ingenious controls, and machines, and electrical processes to do things that were impossible with earlier equipment.

Electronics has entered our industrial life as a full-fledged partner; as a new tool. Resistance welding, electronically controlled, has revolutionized numerous manufacturing processes. Electronic

control of motors and of circuits generally has opened up new fields for better utilization of electric power.

High frequency heat is still in its infancy, but its extensive applications, such as surface hardening of metal parts and uniform and fast heating of dielectric materials open a large vista of new uses of electric power.

The electronic tube with its high speed response and its amplification powers has been aptly called an "extension of the senses." The X-ray in industry is beginning to rival in importance its application in the hospital. The future of electricity in industry is bright. In fact, the extension of its use is fundamental to our improved economy.

In the field of land transportation there has always been a unanimous public preference, if not a demand, for electric traction. The freedom from noise, smoke and fumes, the smoothness of operation, the cleanliness and the comfort have always appealed to the traveler. To a smaller but an equally appreciative group of people, the property owners adjacent to a transportation system, electric operation is a boon to which substantial monetary values can be assigned. Where the public has a choice between a mechanically or an electrically driven vehicle, the great majority of riders will patronize the electric vehicle. This has been observed time and again in cities where gas buses and trolley coaches operate over the same or adjacent routes.

This indicates that electric transportation is what the public wants and will use if given the opportunity. Unfortunately, the railroads and transit companies are not always in a position to satisfy the public want. The cost of getting electric energy to the vehicle and the relative cost of the energy itself are the deterrents. The former appears in fixed charges and the latter in direct operating costs. Future inventions may help reduce the cost of conversion and distribution, while the central station industry should be able to contribute something toward the reduction in power costs.

At costs in effect today electricity is the most expensive form of energy to use for motive power on our railroads. As inefficient as a steam locomotive is and as efficient as electric apparatus is, the cost of coal burned on a steam locomotive is less than the cost of electric energy purchased to perform the same train service. When referred to diesel-electric locomotives, electric energy makes an even poorer comparison. The relative electric energy and fuel costs depend, of course, upon the train service rendered by the railroads as well as on the prevailing market prices of fuels, but it would not be uncommon to find such a ratio as 1:1.5:2 for the fuel or energy cost of operating a train with diesel fuel, coal and electricity respectively. This ratio is based on high speed passenger service on a water level route where the prevailing unit prices are 5 cents per gallon for diesel fuel, $3.00 per ton for coal and 7 mils for a-c 60-cycle energy. The order of magnitude of the total energy for operating an extensive electrification may be in the neighborhood of 1 billion kwhr per year. It can thus be seen that a difference in the rate of 1 mil for electric energy results in a change of one million dollars in operating cost.

This situation is somewhat similar in urban transit, but here the difference between electric energy cost and that for liquid fuels is not so marked due to the relatively high taxes imposed on liquid fuels in most states. Even so the cost of diesel fuel for buses usually is less than the cost of electric energy for trolley coaches per unit of service rendered.

As indicated previously, one of the human wants is to do things more easily, quickly, economically—which generally means electrically. In transportation, in spite of its general attractiveness and flexibility, the industry has not always been willing to pay a premium for the use of electricity. Its utilization has been governed largely by cold economics, or expediency. The result is that electrification of railroad and transit properties is applied only where traffic density is so high that the investment in the conversion and distribution system is small per unit of service rendered, and the return on the investment justifies paying more for electric energy than for the equivalent liquid or solid fuel. If the desire for electrification is to be satisfied, ways of reducing both of these components must be found.

And what about the wants of the electric power industry itself? It is tactically located in the key position; upon it practically all of our other activities depend.

The demands upon the electric power industry are for increasing service, more exacting service, at decreasing costs. And to meet this requirement, this industry will want all the help possible from the producers of power system equipment in terms of better performance and lower costs. Manufacturers of electrical equipment are keenly aware of this need for assistance and as in the past are dedicated to a broad and sustained development activity to this end.

One prominent utility executive stated he wanted a 9,000 Btu per kwhr power station at $75.00 per kw installed, and a distribution system with proportionate advantages. This is a worthy goal to try for, but high economy and low costs are not entirely compatible today.

Thus far efficiency and operational reliability have meant so much in operating costs that these have had the preference over low first costs. The industry is giving some encouragement to a standardization of ratings which should enable the manufacturers to obtain lower costs through duplication of production. Emphasis on factory assembled "package" products is also a step in the right direction. There is no thought in these moves to freeze technical design, rather it gives equipment manufacturers more opportunity to concentrate on the research and development program necessary to achieve better performance at lower costs.

The step from a 10,000 Btu station to a 9,000 Btu station is a big one. Higher steam temperatures, reheat, and refinement in boiler and auxiliary design offer possibility of some improvement in the economy of the large coal burning steam station. 9,000 Btu is within the reach of the mercury steam cycle. The problem here is one of obtaining lower first costs, and we hope with experience this can be done. New cycles may develop in the future.

The gas turbine is a promising new tool for the production of power, but it seems too early to project it as a real competitor of the large steam turbine station for the efficient production of power in the electric power industry. It would seem the better policy to develop it first for those applications where extremely high efficiency is secondary to weight and space requirements, such as on airplanes, railroad locomotives, and ships. It may find a limited field for outlying stations of low capacity where water is not available.

When these developments of the simple gas turbine have been mastered we shall be better qualified to judge the possibility of its future development as a legitimate competitor of the larger and

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Improved Customer Service at Less Cost

By R. E. Fisher

Vice-President in Charge of Public Relations and Sales, Pacific Gas and Electric Company

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 7, 1944

IT is axiomatic that "good service is good business." Under the American System of Free Enterprise, it has been proved that good service is not only the foundation of good customer relations but it is an important business building asset. In the electric utility business good service, for example, directly affects the trend of kwhr use and aids in retaining existing business threatened by competition. Furthermore, it contributes to our customers' satisfaction with the equipment they are now using, and has a bearing on future sales and market development possibilities.

It behooves electric utilities to render good service on a basis that is not only efficient but effective. The principle of private enterprise dictates that electric utilities be alert to seek and effectuate sound economies in rendering service to their customers in order that electric rates may always be competitive with those of municipal operations.

It is significant that today many electric utilities are attaching more importance than ever to customer service and the opportunity for constructive customer relations work as the result of various transactions with customers. The overall conception of customer service should embrace the several transactions with customers, including not only appliance servicing by the utility but the general service rendered in receiving and dispatching requests for service of any kind.

During war time, in compliance with the necessity of conserving manpower and automobile mileage, it has been necessary that utilities re-examine the many transactions involving service to customers and develop ways and means of operating most efficiently, and at the same time maintain a high level of service. In the pre-war period it was common practice to accept without questions a customer's request to set a meter or turn on service, to go out on a "no light" or "no power" complaint, or to make a service call by appointment, all of which requests were generally dispatched without delay. The practice today, however, is that of receiving and dispatching these requests for service, including appliance adjustment requests, on a basis of executing as much of the work as possible as routine with provisions for giving immediate attention only to special or emergency request received. Such programs have required careful training of all employees, especially those on the night time shift.

The keystone of any plan of rendering service is the attitude of the customer contact employees. The application of utility wartime service programs has required that these employees fully understand that war conditions not be used as an excuse for any modification in service practices. Emphasis at all times must be placed on the principle that our customers' appraisal of the service we render is not only influenced by *what* we do but more particularly by *how* we do it.

The successful experience with a properly developed receiving and dispatching plan indicates that utilities would be warranted in continuing this in the post-war period. This, therefore, would contribute towards a continuation of sound economies and thereby eliminate the criticism of unwarranted preferred service on all types of requests, which might undermine an otherwise sound service program.

A progressive customer service policy should seek new opportunities for service to our customers as well as ways and means of operating most efficiently. The "Durationize" program directed at customer education on the care and use of appliances has demonstrated what can be done. This has not only lessened the number of requests for appliance servicing in the home, but it has shown customers how they can replace blown fuses instead of generally relying on the utility to handle ordinary "no light" complaints. This has already indicated that utilities should review their future policy concerning fuse replacements on "no light" complaints.

One of the new opportunities for service to customers that has been recently introduced is the testing of pressure cookers used for home canning. This is timely as a part of the nationwide program of home food production and preservation. When housewives learn they can bring their pressure cooker to the utility for a simple pressure test this is viewed as a definite cooperative service. This is only one example of new opportunities for customer service, but it is sufficient to indicate what can be done without affecting the principle of economical service practices.

Appliance servicing work as rendered by electric utilities should be critically examined in the light of experience during recent years. The former conception that utilities should underwrite all types of electric appliance servicing should be dissipated. We should seek to have dealers meet their share of responsibility in servicing appliances and it is important that utilities' appliance servicing policy coincide with this conception of appliance service. In addition, it is fundamental that a utilities appliance servicing program be available to all customers without discrimination.

One of the circumstances that is contributing to the ordeal of electric appliance servicing confronting the industry has been the customer's misunderstanding about meaningless guarantees. This appears in some cases to have been the result of over emphasis on guarantees as a substitute for the best appliance design and construction. It is imperative that each domestic electric appliance manufacturer seriously consider this problem and re-examine his guarantee policy in keeping with certain fundamentals. First, determine that whenever guarantees are used they will be clearly defined as to *who* does *what*. The responsibility incumbent on the appliance manufacturer, distributor and seller should be clarified not only for ordinary retail sales, but quantity sales to contractors and builders.

Second, it is important that the intent and purpose of the appliance guarantee not be confused with the life and performance of the appliance but rather that appliances should be sold on the basis of their true merit. When it is necessary to use extended service or pro-

tection plans, these should be divorced from misleading or unwarranted guarantees. The conditions of an extended service or protection plan applicable only to certain parts of the appliance should be clearly defined in a certificate issued to the customer and recorded at the time of sale.

Third, it is desirable that manufacturers review the confusing practice of one year's guarantee of parts required for the maintenance and repair of old appliances, and instead organize this servicing work on a sound basis comparable to that of other leading industries.

Another aspect of appliance servicing that we should challenge is the subject of appliance design and proper engineering standards. This is a challenge that should be heeded by the manufacturers of all types of domestic electric appliances. However, the situation is particularly serious as it applies to electric ranges and water heaters, according to a recent report by service engineers who analyzed the common causes of service problems with 150,000 electric range and water heater customers. I think it is significant to enumerate certain recommendations based on this field study and the following is respectfully submitted for the consideration of electric range manufacturers:

1. Uniformity of top opening for surface units to facilitate the installation of various sizes of units.

2. Proper engineering standardization of the type of surface unit switch and its location to permit servicing from the front of the range.

3. If range switches are mounted on the front of the range below the cooking top, they should be located away from spillage, and if mounted on the rear panel, they should be safe-guarded against condensation.

4. Range thermostats should be protected from spillage and condensation that is responsible for 90 per cent of the trouble with electric contacts.

5. Range thermostats inside the oven should have a protective device to prevent overheating and breakdown in the event the thermostat sticks in a closed position.

6. The design of all current carrying parts, especially switches and thermostats, should have a 50 per cent safety factor. In addition, provision should be made for proper insulation and adequate clearance between poles of opposite polarity, positive acting cams, and spring contacts of adequate size.

7. The name plate with model number data should be located in the same uniform place rather than at different points most anywhere on the range; even on the back of it, which is most inaccessible.

8. All ranges should have a screw device at the floor position to level the range instead of requiring shims or blocks under each corner floor rest.

9. Any signal lights on switches, or oven lights, should be standardized as to size and be readily accessible so that a customer could easily replace one without requiring a serviceman to dismantle the range to do so.

10. Oven unit elements should be designed for simple replacement of damaged insulator parts or wire coils.

11. Oven unit frames should be enameled or made of stainless steel or nonferrous metal since present common construction frequently deteriorates and burns out.

12. Oven unit connections, such as blades and clips, should be standardized and improved to lessen the high percentage of failure resulting from housewives' inability to properly install the unit when it is removed for cleaning.

13. Deep well or thrift cookers, regardless of style on any given model of range, should be designed with a standardized element and coil to simplify replacement.

14. Oven door bearings, springs and hinges should be of improved design to have adequate strength and rugged construction to withstand years of service without recurring failure.

The above comments generally apply to all makes of electric ranges. They are not intended necessarily as criticisms but rather as constructive suggestions for general improvement in design, simplification and proper engineering standards. Time will not permit enumerating similar suggestions regarding other types of appliances. However, it behooves manufacturers to re-examine performance records and embody in all of their appliances the highest degree of proper engineering standards and improvement in design.

These recommendations will have a substantial bearing on reducing the cost of maintaining the operation of appliances, which is important from a utility or dealer viewpoint, even though the cost is absorbed by the customer.

The overall service problem confronting the entire electric industry must be viewed realistically as well as objectively. We should challenge any servicing situation that is contrary to sound economics and efficient service or that undermines the effectiveness of our customer relations work. This is our responsibility that the principle of free enterprise will endure in the electric business. We cannot remain static, we must be progressive.

The President's Address

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officials, and many companies are working shoulder to shoulder in community, State and regional planning agencies. No organization is more interested in and helped more by sound local planning than are the electric utility companies. Their expansion possibilities and difficulties are affected by plans for street and highway location, widening and extension, by plans for housing developments, zoning regulations and similar community planning matters. With our 32,500,000 customers, we are so woven into the economic fabric of the country that our interests are not only inseparable but identical. Let us never forget that what helps the country and vice versa, and that the measure of our success will be the effectiveness with which we fulfill our obligation as public servants.

Human Wants

(*Continued from page* 224)

more efficient power generating plants.

Research and engineering for the electric power industry is not losing impetus —there are still too many wants to be satisfied and too many encouraging factors in sight to permit of any slowing down.

For the past several years we have been devoting all of our energy, our science, our engineering, and all the ingenuity we could command to satisfying the wants of our armed forces. We have done a magnificent job. Until the war is won, we must continue with that job, under the stimulation that the better our efforts the sooner victory will come. With victory we shall find that science and engineering have advanced rapidly during the war period. We have built up a stock pile of new knowledge, new materials, new methods, new inventions and know how, from which we can draw to build peacetime products. The wants for these products have been growing—the electrical industry is vital to their fulfillment. The future is fascinating for those who stand ready to serve.

Faith Without Works Is Dead

Planning for Better Community Development

By S. P. Vecker

Vice-President, Carolina Power and Light Company

Address before the Annual Meeting of Edison Electric Institute, New York, N. Y., June 6, 1944

CERTAIN critics of our industry may look upon the topic of my assignment as sacrilege. However, the unbiased, as well as those within this industry, appreciate its appropriateness and readily agree that the Book from which this title is taken can always be relied upon for wise counsel in every worthwhile undertaking.

FAITH, according to the Bible, is the substance of things hoped for and the evidence of things not seen. According to Saint James, that same faith is of no value unless it is accompanied by the efforts of man.

It was that steadfast faith of our forefathers, supported by years of toil and sacrifice, which made America the Land of Freedom. The untiring efforts of those who believed in higher standards of living have made America a better place in which to live. The nation's industrialists, through faith and constant work, have made this country the industrial envy of the world. The world today would offer very little hope were it not for the fact that faith in our ability to crush Hitler and Hirohito is being supported by our willingness to devote every necessary effort toward that end.

There is a very definite relationship between faith and work and the perpetuation of the competitive free enterprise system under which America has grown great. Faith alone will not continue and expand that system. The ability of the system to function is dependent upon the energies of men and women who covet the advantages which the system offers as a reward for work.

Let us consider the problem which will face us when millions of G. I. Joes begin to debark from a postwar bridge of ships. It is hardly enough to say that a job must be provided for every man who has worn with glory his country's khaki or blue. Other millions engaged in war production—men who came out of retirement, women who came out of kitchens, and men and women who came directly from relief rolls to payrolls—have hopes of continuing at a gainful occupation. They are pleased with the improved living conditions which increased pay has provided. They will not be content to step aside for those returning from our armed forces. So, without attempting to estimate the number of jobs which will be needed it is a foregone conclusion that jobs must be provided for more people who will expect higher wages than were received prior to the war.

Regardless of all that has been said about how a satisfactory level of employment may be maintained in the postwar period, there remain but two job sources. One is the competitive free enterprise system and the other is the government. An analytical appraisal points directly to the free enterprise system as the only logical source. That system comprises three general classifications:

Manufacturing
Agriculture and
Marketing

all of which are very closely interrelated and inter-dependent.

Manufacturers, farmers, and those concerned with marketing are cognizant of the benefits derived from coordinated efforts. There are indications that they are getting together and are agreeing on a specific plan of postwar job approach. Every type of industry, each segment of agriculture, and every channel of distribution are making individual plans which when considered in the composite will supply the answer to the problem of creating jobs. There has developed a full realization that failure on the part of individual groups or segments to develop workable plans will invite the provision of jobs through the second source of supply—the government.

It is not my purpose to discredit government employment generally, for there are some specific services which must be rendered by the government as well as by private industry. Government employment sources divide themselves into five classes.

First, necessary functions to which employees are elected or appointed.

Second, government construction which includes essential building or expansion on the part of federal, state, and local sub-divisions.

Third, aiding in research, the nature of which is to serve the public interest.

Fourth, relief agencies such as the WPA.

Fifth, business ventures in competition with private industry.

Of these five government employment sources the first three could be classed as essential, since they not only will provide work for a great number of people but in a large measure will be necessary to the proper functioning of an expanded postwar economy. But there are strong indications that it is not through these channels that government proposes to create employment. According to the "planned economy boys," large scale employment must be provided through resurrected relief agencies and through the operation of various business and industrial ventures into which public funds have been poured during the war and which the government proposes to operate in competition with private business and industry after the war.

The government creates no wealth, but on the contrary consumes wealth. The simplest of reasoning points to the necessity of not only preventing further government expense but drastic curtailment in such public expenditures as are not attributable to the war.

The task of private enterprise is to channel the thinking of individual citizens along lanes of thought that a conservative Federal fiscal policy undoubtedly will be for the best interests of the country as a whole. Eventually, the public will arrive at the conclusion that our economic salvation is dependent upon a flourishing competitive free enterprise system. With the arrival at such a conclusion we come face to face with the necessity of answering the question, "What have you done and what are doing to provide the necessary stimulus?" If tomorrow is to be peaceful and pros-

perous, then we must make tomorrow's plans today.

Realizing that our hopes for the future are dependent upon plans for the present, a program was launched more than a year ago which we have designated as "A Plan for Community Betterment."

My company is of the transmission line type, embracing 288 communities in North and South Carolina. Of that number there are only two of 50,000 population or more, and four of slightly more than 10,000 population. The remaining 282 towns and communities have an average population of approximately 1700. In the development of a program to improve the economic status of our territory and consequently provide more jobs after the war, the small town was the pivotal point of the plan.

A distinct Community Betterment Department was created and a person of long experience and intimately familiar with the territory served was assigned the responsibility of developing the plan of community betterment and coordinating its various phases.

A survey of present conditions in the average community showed that a minimum of reconversion of factory facilities to peace-time production will be required following the war. The character of the industry is predominantly textile. Today it is devoted primarily to production for war purposes. It is, however, a type of industry which can, with a minimum of manpower, time and material, readily be reconverted to its prewar position of textile production for civilian purposes.

To promote the idea of community betterment it was necessary to organize in each community a central committee composed of leading citizens who were willing to assume the responsibility for effectuating the work.

The majority of communities involved have no chambers of commerce or trade associations, and in some cases are too small to support an active civic club. Contacts, therefore, were made through the company manager or representative in the community.

In the few larger towns where active chambers of commerce or trade associations were to be found the plan for community betterment was presented to the executive committee of the chamber and whatever benefits might result accrued to the favor of the chamber or association.

In towns and communities too small to support trade bodies, the plan was worked through a committee comprised of the heads of various civic clubs and organizations or other interested individuals. In the majority of cases this group was referred to as "The Committee for Community Betterment." Inasmuch as all civic organizations were represented on the committee, the program became the property or project of no particular group and consequently was given the support of all.

After the formation of the Committee for Community Betterment the company manager sat in its meetings as a member and acted as a spark plug, so to speak, by supplying the committee with materials and procedures from the company's general office. At the same time the company representative assisted the committee in gathering information on which local plans depended. Information thus compiled enabled each committee to determine local needs more intelligently and consequently provide a logical basis for future planning.

The research efforts of local committees have resulted in the formation of a general program which may be divided into four phases:

Agricultural development.
Industrial readjustment and development.
Modernization and expansion of municipal facilities and
An improved marketing program.

Agricultural Development

Keeping in mind that the primary object of the entire community betterment program was to provide more jobs at a fair scale of pay, an agricultural development department was established. Its function is to further implement the general program and to facilitate specific rural planning.

Aided by state agricultural colleges, county farm agents, and local rural committees, additional farm research was undertaken. Here are some of our findings:

Not more than two per cent of the canned and packed foods consumed in our area were processed locally.
Total output of creamery butter would give each person in the area not more than half a pound per year.
Annual volume of fruits and vegetables canned in the area would equal no more than a day's supply.
The year's local production of sausage and prepared meats in the area would be consumed in less than a week.

We in the Carolinas, estimate that at least 100 million dollars can be kept at home annually by processing foods which we are as well suited to produce as any area in the nation. In fact, the greatest drain on our income is an export of cash for imported food, a large part of which is grown in the area but processed elsewhere after being sold at wholesale rates, leaving the grower with a minimum of profit. If this program results in nothing more than the location within the area of adequate food process facilities, the problem of unemployment will be substantially solved. We further found that the possibilities in the dairying and meat packing fields are almost as great.

These findings should create a compact cordination between agriculture, as a source of raw materials, and industry, as an increasing profitable customer of the farm.

Industrial Readjustment and Development

To benefit from such findings capital must be provided for the establishment of industry. In some communities, committees have agreed that it is preferable to solicit the capital locally . . . in others, effort will be made to invite outside capital.

Industries already established and which enjoyed a fair measure of prosperity under reasonably normal conditions, when surveyed, indicated that the pent-up demands for their goods which have not been manufactured since the outbreak of war, will provide them outlets for a steady flow of production upon a return to peace-time conditions. In the field of new industries the possibilities lie in the establishment of plants to process raw materials so abundant in the area, such as agricultural products, wood products, minerals, tile and clay products, and the like. The creation of markets for products which did not exist prior to the war, such as a substitute for olive oil from peanuts, plastics from sawdust and soybeans and other commodities from our most abundant food and fiber products should also stimulate the location of new industries. It is our belief that even a fair measure of success in a plan for the readjustment and expansion of industry should result in a sufficient number of jobs to keep those now employed at work, and provide for additional jobs.

Modernization and Expansion of Municipal Facilities

The phase of a community betterment which offers greater immediate postwar possibilities is the modernization and expansion of municipal facilities. Existing facilities were in most cases taxed to capacity prior to the war. Many were

outmoded and in need of repair or replacement. Wartime restrictions have prevented the necessary corrective measures. Warring conditions have created circumstances which have served to emphasize these weaknesses.

Since the majority of towns served do not employ a city engineer, no accurate appraisal of present-day conditions and postwar needs was available to the municipal authorities until the Committee for Community Betterment made these local studies. Inasmuch as such studies involve matters which may have political implications, it was necessary in the majority of cases for the committee to submit their findings to the municipal council with the understanding that the committee would claim no credit for municipal improvements provided the council elected to proceed with the program. The only way in which the committee would be further identified was through its offer to give active support to those recommendations made to the public for the improvement of municipal facilities.

In order to be equipped with specific information regarding every facility of the town or community a set of forms was prepared to be used in making this appraisal. These forms comprise a complete questionnaire in the treatment of each subject such as water works, sewerage systems, street lighting, public buildings, parks and playgrounds, air fields, incinerators, street paving, fire protection and other miscellaneous municipal facilities. Basic information such as population at present and estimated population five and ten years hence—electric, water, sewerage, gas and telephone users—capacity of water pumps, stand pipes, and reservoirs—in fact, space was provided for every item needed to make a thorough study. This provided each community with the type of information concerning every public facility in its area so that intelligent planning can be affected with respect to immediate and long range postwar municipal needs.

Fortunately, the average community is in position financially to begin work on this program when men and materials are again available. Local taxes generally have been held to pre-war levels and since no moneys have been spent for large outlay in maintenance, reserves have been built up which should enable municipalities to execute the program without imposing any undue increase in the tax burden. Definite plans have been made for the expansion or improvement of municipal facilities in enough communities to assure the creation of many jobs for a period of from one to two years following the war.

Improved Marketing Program

The fourth, last, and most important phase of the community betterment program is that of finding markets for products of agriculture and industry. No postwar program for community betterment can be complete until provision is made for accelerated sales, distribution and service activities.

Just as our nation is dependent for prosperity upon active participation in world trade, so is local community betterment dependent for success upon its ability to establish acceptance for the increased production which should result from accelerated activity in agriculture and industry.

Within and adjacent to the area served by my company is grown the major portion of the nation's output of Bright Leaf tobacco. The long established plan of marketing tobacco does not accomplish the full purpose in mind. The same can also be said as regards the marketing of cotton. This type of marketing as it relates to highly perishable farm products does not keep at home the many profits in the successive steps between raw materials and finished goods. In order for this situation to be remedied in the case of fresh meats, poultry, produce and other perishable farm products, the strategic location of cold storage plants will be necessary.

In the establishment of markets for such farm products, the assistance of state, county, and local farm agencies must be enlisted. Not only can they be of help in the matter of providing outlets, but the research efforts of the departments they represent are invaluable in projecting requirements of various agricultural products.

The establishment of profitable markets for products of new industries is a difficult problem and consequently deserves not only the full support of community leaders but the coordinated efforts of various communities within the area. It must be remembered that new and relatively small processing plants engaged in the manufacture of products under new trade names will find it extremely difficult to market such products in competition with national brands. If each processing plant in each community undertakes to find a market for a competitive product with limited capital for promotional purposes, it is possible that the purpose of the whole plan will be defeated. Although various plants processing similar products may have no financial relationship, the processing of products under a similar brand name in accordance with prescribed standards will result in a more effective and less expensive marketing program. The manufacturers of established national brands have proved the soundness of such practice. The advantage of this system of marketing encourages diversified employment through decentralization.

It is to be hoped that the marketing program will not be limited to the supplying of local demands. The creation of a national demand by representation on national markets will further stimulate every phase of the local economy. This program, however, does not anticipate the exclusion of products manufactured elsewhere—we realize fully that our section of the country is dependent upon various other sections for products which are in heavy demand and which cannot be manufactured profitably within the area. Its sole purpose is to capitalize the advantages which the area offers and so create more jobs for more men and women.

It has been and still is our belief that a program of community betterment soundly conceived and persistently pursued is the only way in which jobs may be provided without further burden to taxpayers and without undue risk on the part of agriculture and industry. In no instance has this program reflected any cause whatsoever for higher taxes. Nowhere is allowance made for the return of present job holders to relief rolls. It is purely an American approach.

With agriculture, business, commerce, and industry providing higher levels of employment through a planned program, the needs of humanity will be met and there should be no necessity for the government to assume the roll of employer at the expense of the taxpayer.

I have faith that the competitive free enterprise system can provide that employment. However strong that faith may be, I am equally certain it would result in a fruitless end unless supported by a program of work.

Just as it was in fact in Biblical days, so it is today that *FAITH WITHOUT WORKS IS DEAD.*

Plan Your Kitchen—Now!

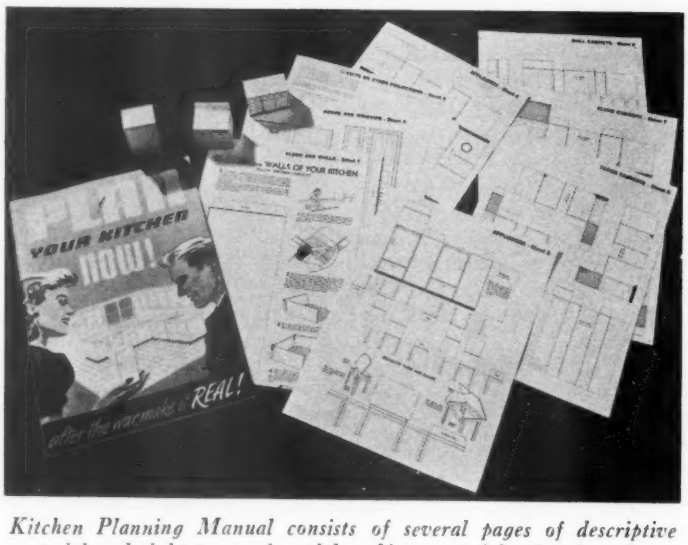
By Vernon E. Shepherd

Advertising Manager, Central Hudson Gas & Electric Corporation, Poughkeepsie, N. Y.

FOR nearly two years home appliances have been off the market. Appliance stores have closed. Many experienced repairmen are in the armed services or have gone to work in war plants. During this time most utility companies have spent a good share of their advertising dollars advising customers as to the steps they might take to help insure the continued operation of their present equipment. This has been, and still is, good business. Every appliance kept in service means just so much more revenue kept on the lines. But, with all the effort that has been made, it is probable that many appliances have gone out of service. There is a good side to this, too! People have come to realize more strongly than ever before just how invaluable home equipment is. In every city and hamlet, along every country road, markets are being created for after-the-war selling. People have become appliance minded!

But, with the war's end, don't think we are going to have everything our own way. With civilian goods once more available, it's the fellow with the most attractive proposition and the most potent argument who's going to cash in. He may be the automobile salesman, the furniture salesman, or the salesman with this, that or the other thing; but as yet these future salesmen have no work in sight. They need something tangible in their hands to show and sell. That's where we have a big advantage. We do have something to sell—*an idea with length, breadth and depth.* So, while continuing our efforts to keep present equipment in operation, we think the time has come to start laying the groundwork for future appliance sales for the appliance and equipment dealers in the area we serve.

In our opinion, for sometime after the war new building will be at a minimum. We think that modernization of present homes will be the big source of new business. We think that a good many housewives have already made up their minds to do something about their kitchens, or at least about the appliances with which they have to work. If we could place a planning device in their hands realistic enough so that they might actually see their present kitchen modernized, we might reasonably expect to attain three ends: (1) They would see what could be done with their kitchens; (2) an idea would be implanted in their minds; and (3) the completed plan would stay with them as a constant reminder.



Kitchen Planning Manual consists of several pages of descriptive material and eight pages of model making material printed on heavy cardboard

With this in mind we set out to devise a kitchen planning manual—the kitchen being the spot in the home where most household appliances are concentrated. We knew that the plan had to be flexible because every woman has pretty definite ideas as to how she wou'd like her kitchen to look. The manual consists of a number of pages of descriptive material plus eight pages of model material printed on heavy cardboard to a scale of ¼ inch to the foot. Sheet 1 is the floor and side walls. By making two simple cuts the floor plan can be adapted to any size kitchen. Sheet 2 provides for closets, pantries or other projections which may be in the kitchen. On Sheet 3 are a variety of doors and windows to be cut out and pasted in their proper positions on the side walls. Sheets 4 to 8 provide all sorts of appliances, and floor and wall cabinets from which a selection may be made. These are cut out, folded, and pasted together making *three-dimensional* models which may be arranged to suit the worker's fancy.

With the manual, any housewife may plan her kitchen of the future—right now! She may readily see her present kitchen fitted with all manner of new appliances, and floor and wall cabinets. She may work out a color scheme for the whole. With colored crepe paper she may make curtains for the windows and cloths for the breakfast table. Her imagination is the only limit.

It's beside the point that when the time comes to do the actual work of modernization she may do the whole job at one time, or a little at a time. She has a plan to follow!

In order to present the manual, a novel demonstration has been put together. One part illustrates the many steps which must be taken in order to prepare and bake a cake in a poorly planned kitchen. Another part deals with the transformation of a dull, drab kitchen into a kitchen of shining beauty. At the present time demonstrations are under way in a number of Home Economic classes in city high and rural central schools, approaching the parents through the students. Other demonstrations are in process of preparation for women's clubs, granges and similar organizations.

Kitchen planning is a natural tie-up with the sale of United States War Bonds. War bonds bought now are truly an investment in the future. Now they are being bought to save our homes in free America. Later they may be used to modernize them!

PERSONALS

WILLIAM H. BARTHOLD, chairman of the board of directors of the Central Illinois Light Co., Peoria, and president of the Southern Indiana Gas & Electric Co., Evansville, has tendered his resignation from these offices, effective June 1. Mr. Barthold expects to continue as a director. He has been in poor health for some time and has been obliged to forego his usual activities.

JAMES A. BROWN, a vice-president of the Southern Indiana Gas & Electric Co., has been made president of that utility to succeed Mr. Barthold.

Mr. Barthold is well known in the public utility field. He became an officer of Central Illinois Light upon its organization in 1913 and of the Southern Indiana Gas & Electric Co., when it was organized in 1912. He first entered the utility business in 1896 with the Grand Rapids Gas Co. and subsequently joined Consumers Power Co. in an executive capacity. He has continued to serve for 43 years with companies comprising what is now the Commonwealth & Southern Corp.

Mr. Brown has been associated with the operations of Southern Indiana Gas & Electric since its organization 32 years ago and also has been connected for a long time with other utility companies which are now a part of the Commonwealth & Southern system.

CARLETON E. TORREY, vice-president and general manager of The Ohio Power Company, in charge of its statewide operations since 1923 with headquarters in Canton, Ohio, retired on May 31.

Mr. Torrey was succeeded by E. A. LEWIS, vice-president and general manager of the Indiana & Michigan Electric Company of South Bend, Indiana.

Mr. Torrey has been connected with the electric utility business for 45 years, starting in 1899 as superintendent of water and lights for the Lake Superior Power Co. at Sault Sainte Marie, Ontario. In 1910 he joined the Janesville Electric Co. at Janesville, Wisconsin, as assistant manager.

He came to Canton January 1, 1911, with the Canton Electric Company and was assistant manager when this company became a part of The Ohio Power Company. In 1917 he was transferred from Canton to become manager of the East Liverpool division of the company where he remained until 1920 when he went to Atlantic City, N. J., as general manager of the Atlantic City Electric Company.

He returned to Canton in 1923 as General Manager of The Ohio Power Company and was elected vice-president at a later date. Mr. Torrey will continue to serve the company in a consulting capacity.

B. W. COWPERTHWAIT has retired as manager of the Faribault (Minn.) division of the Northern States Power Co. He has been succeeded by Stuart V. Willson, now manager of the southwestern division of the company with headquarters at Montevideo. Mr. Cowperthwait has been associated with utility companies at Faribault for 43 years, 34 of which have been with the Northern States Power Co. For a year he will remain in an advisory capacity with the company.

C. F. BLACKMAN, assistant sales manager of the St. Paul division, has been appointed manager of the southwestern division to succeed Mr. Willson. Mr. Blackman was first employed by Northern States in 1923, in the Minneapolis office, transferring to St. Paul in 1929.

LEONARD KOLSTAD of the company's Eau Claire distribution department, has been appointed electric distribution superintendent for the Chippewa Falls district.

JOHN A. GREGOR, assistant chief engineer at the steam plant at Galena, has resigned after completing 35 years of service with the company. Carl J. Peterson, supervisor of the hydro plants of the Stillwater division, has also retired, after 41 years of service.

HANCE H. CLELAND, president of the San Diego Gas & Electric Co., San Diego, Calif., was elected president of the Pacific Coast Electrical Association at the recent annual meeting.

Mr. Cleland has had a broad background of experience in the utility field both as president of two large western utility companies and as a member of the Public Service Commission of the State of Washington.

He also distinguished himself in the legal profession. He practiced law in Oregon and Washington from 1910 until 1936 and served as assistant attorney-general for the state of Washington from 1916 to 1919 and then on the Washington Public Service Commission and its successor, the department of Public Works, from 1919 to 1924.

Joining the Californa Oregon Power Co., he spent thirteen years as valuation and rate counsel and his election to the presidency followed in 1938. When in 1941 William F. Raber, president of the San Diego utility retired after 50 years of service in the utility field, Mr. Cleland was named to succeed him.

HAROLD P. CHAMBERLAIN has recently been appointed assistant secretary and assistant treasurer of Wisconsin Electric Power Co. succeeding John W. Heiss, deceased. At the same time FRANK J. BOEHM, an assistant secretary, was also appointed an assistant treasurer. JOSEPH A. WOLFRUM was appointed an assistant treasurer.

R. PAUL SMITH, president of the Potomac Edison Co., Hagerstown, Md., was elected president of the Southeastern Electric Exchange at the annual conference held recently in Atlanta, Ga.

Mr. Smith, who became president of the Potomac Edison Co. in 1932, has been connected with that utility and its predecessors since he was graduated from Blue Ridge College in 1909. At that time the property was known as the Washington, Frederick & Gettysburg Railway Co. and Mr. Smith joined the staff as a clerk in the office of the general manager. He then advanced successively to the position of agent, general agent, accountant, traffic manager, district superintendent and general superintendent, in the last-named capacity directing the electric, gas and railway departments.

When the company was reorganized as the Potomac Public Service Co. he was appointed general manager and, a few years after the formation of the Potomac Edison Co., he became vice-president. It was in 1932 that the board of directors elected him to the presidency.

HERBERT H. WEBB, assistant to the general manager of the Dayton (Ohio) Power & Light Co. since 1936, has been named sales manager for the American Felt Co., Detroit. Mr. Webb has been associated with the Dayton utility since 1929, going there from Cleveland where he was an electrical engineer for three years for the General

Electric Co. When he first became associated with the Dayton company, he was in charge of lighting sales. Mr. Webb is a member of the Illuminating Engineering Society.

R. F. PULVER, general sales manager of the Minnesota Power & Light Co., Duluth, was recently elected vice-president of the company. Mr. Pulver will continue to head the company's sales organization with the title of vice-president and general sales manager, it was stated.

Mr. Pulver joined the Minnesota utility in 1924 and has occupied various positions in the general sales department. He became general sales manager in 1941.

Recent changes in Wisconsin Public Service executive personnel have been occasioned by the resignation of ALLAN C. DAVEY, company Sales Manager to accept a similar position with the Clark Water Heater Division of the McGraw Electric Company. ARNOLD G. BUR, Assistant Treasurer and Public Service division auditor at Green Bay since 1930 has been appointed Sales Manager to succeed Mr. Davey. He will continue to live at Green Bay and will move the Sales Manager's office there.

Mr. Bur is a graduate of East High School, Green Bay and of the University of Wisconsin. Previous to this he was storekeeper for the company at Green Bay, worked in Chicago for Reid-Murdoch Company and the *Herald Examiner* and operated a commodity brokerage firm in Green Bay.

A new position, that of Assistant Sales Manager, was created in the change and will be filled by DALE REMINGTON, at present Advertising Manager. He will continue to have his office at Green Bay and will add the new duties to those previously handled by his department. Employed since 1925 in sales and advertising positions with the company at Green Bay and Oshkosh, Mr. Remington preceded this with several years of part time employment with an affiliated company at Marinette and Menominee.

Effective at the same time is the appointment of ROBERT C. HORN as Division Auditor at Green Bay, suceeding Mr. Bur. Mr. Horn, a graduate of Stanley, Wisconsin, High School and of Marquette University, has worked for the company in various accounting capacities at Marinette, Menominee (Mich.) and Green Bay since 1929.

Other changes involve the creation of a new accounting department known as the Property Accounting and Records Department with C. A. MCKENNA as Accountant in Charge and W. T. JESS as Assistant. Both men have had wide experience in company construction accounting for many years, Mr. McKenna working at Menominee (Mich.) from 1929 to 1933, then in Milwaukee for two years and at Green Bay since 1935.

CONVENTIONS AND MEETINGS

SEPTEMBER

12-13	Accident Prevention Committee, EEI Headquarters, New York, N. Y.
21	American Standards Association, Standards Council, New York, N. Y.

OCTOBER

3-5	National Safety Congress of National Safety Council, Chicago, Ill.
10-12	Southeastern Electric Exchange, Sales Conference, Atlanta, Ga.
23-27	National Electrical Manufacturers Association, Waldorf-Astoria Hotel, New York, N. Y.

PUAA Announces Awards in Better Copy Contest

TWELVE companies received national awards in the Public Utilities Advertising association "better copy contest" on June 7 at the conclusion of the organization's annual meeting in Chicago. Thomas H. Spain, retiring P.U.A.A. president, made the presentations.

The Philadelphia Electric company and Cincinnati Gas and Electric company each won two national citations. Others went to the Peoples Gas Light & Coke company and Commonwealth Edison company of Chicago, Public Service Coordinated Transport, Newark; Georgia Power company, Atlanta; Kentucky Utilities company, Lexington; Montana Power company, Butte; Wisconsin Public Service corporation, Green Bay; Dayton Power & Light company, Consolidated Edison Company of New York, Inc., and Southern California Gas company, Los Angeles. Ninety-nine regional awards were also made.

Newly elected officers of the association are: Russell I. Seymour, Kansas City Power & Light company, president; James V. MacDonald, Boston Edison company (in military service), first vice-president; E. N. Pope, Carolina Power & Light company, Raleigh, second vice-president; Charles J. Allen, Connecticut Light and Power company, Waterbury, third vice-president; Waldo M. Wright, Amarillo Gas company, secretary; Dale Remington, Wisconsin Public Service corporation, Green Bay, treasurer. Elected to the board of directors were Mr. Spain, Margaret K. Hanlan, Public Service Company of Oklahoma, Tulsa; Mead Schenk, Interstate Power company, Dubuque; Kimball Jack, Washington Water Power company, Spokane, and H. S. Metcalfe, West Penn Power company, Pittsburgh.

Farm Extension Plans

(*Continued from page* 218)

ing at "jobs in industry at high levels of production," to the end that agriculture may flourish as an industry, sustaining itself as well as furnishing sustenance for the people of the Nation. If industry does move on and agriculture, through the production of food and its distribution, moves on with it, then I am sure that the positive approach of rural extension of electrical development will have been through the application of sound, simple, straightforward results of research studies and continuous, vigorous efforts applied by so many of us for the years since "that other war."

I believe that when this war closes there must be some very practical changes made in our approach to many problems. I think that a minister friend of mine put it up very well when he stated that—"Peace will be ours with greater certainty for its continuance when we substitute voluntaryism for compulsion, when reconciliation is substituted for revenge, and when inward character comes to mean more than outward conformity." The utilities, as I see them, can do these things and do them well, and make a continuous record of development in farm electrification that will support, always, continuous opportunities to raise the standards of living of our people by furnishing them service and energy of a reasonable standard at reasonable costs.

The positive approach, to my mind, continues to be that of developing and sustaining the uses of the kilowatt-hour on the farm as THE FARMER'S BEST HIRED MAN!

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